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THE UNIVERSITY OF ALBERTA

FOUR WAYS IN MODERN PHILOSOPHY

A DISSERTATION
SUBMITTED TO THE SCHOOL OF GRADUATE STUDIES
IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE
OF MASTER OF ARTS

FACULTY OF ARTS AND SCIENCE

by
WILLIAM JALLEP

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The undersigned hereby certify that they have read and recommend to the School of Graduate Studies for acceptance, a thesis entitled

FOUR WAYS IN MODERN PHILOSOPHY

submitted by William Jallep, B.A., in partial fulfilment of the requirements for the degree of Master of Arts.

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Introduction

We are living in an age when certainty is less certain than it has ever been before. The confusion and crisis in our practical affairs are reflected in our ways of thinking. The sure facts of science are turning out to be only vague generalities; the laws are nothing more than mere descriptions. The recent developments in our physical sciences have shown that the universe can no longer be represented by a mechanical model. Such models can only represent things as being in space and time, but this does not appear to be the real nature of the physical universe as seen by science. It becomes more and more evident that science can never become the study of the so-called realities; it can only investigate our methods of inquiry. In consequence any philosophy which attempts a finalist systematization of all phases of our experience is bound to meet with failure and disappoitment. The once positive truth of arbitrary authority has dissolved into many hypothetical assumptions of science. The purposive drive in the philosophic thinking of the past has disintegrated into countless trends with no unified objective. The result is a certain restlessness of the

human spirit, a striving for something which is not there; and the motives dissipate themselves in vain aspirations and idle fancies.

It is in view of this distracted state of affairs that we should critically survey the main approaches to philosophical thinking of today, and try to discover at least some ideas which may be of immediate value in the reorientation of our perspectives. Perhaps these ideas as partial truths may eventually serve the purpose of guiding lights in the life activities of man.

W. Jallep

March, 1950.

BERGSON'S CREATIVE EVOLUTION

The Intuitive Method

It is generally admitted that of all the thinkers of the present century none had stirred popular imagination to the same extent as did Bergson. Others had, in one way or another, made a great impression through their influence upon philosophic circles or upon individual philosophers, but only Bergson could claim a wide and most heterogenious audience. The popularity of his philosophic method may be attributed to its emotional appeal. It is on this ground that Bergson has been repeatedly criticized as an anti-intellectualist.

Having been early influenced by the German romanticism, Bergson distinctly shows this influence throughout the entire development of his philosophic approach. His early studies in psychology and biology predisposed him to consider the universe mainly from the viewpoint of these two sciences. The early part of the century had witnessed great advances, especially in the field of biology. Consequently, just as Whitehead in the early twenties tried to make sense out of the new notions of physics with respect to space, time and matter, so did Bergson in the first decade of this century try to make sense of the new notions of change and evolution. There

was a pressing need for a revision of the general ideas of the nature of the universe. This need arose out of the rapid development of the biological sciences. His object was to carry this revision along the lines of the new scientific concepts, and to develop a metaphysical background for modern science.

Bergson's method is a rebellion against the dogmatic rigidity of rationalistic as well as materialistic systems. His philosophy of intuition cannot be regarded as a system; nor can it be viewed as an exact account of the ultimate nature of the universe. It is rather a process, a movement. The character of his philosophy is the character of the universe which it conceives; a neverending process, a stream of perpetual change. A philosophical system as such, forever is, but the Bergsonian universe never actually is, but is constantly becoming something else. Therefore his philosophy which explains such a universe is developmental, not finalistic. Perhaps this was another reason why it had such tremendous appeal at the time when human thought strived so much to break away from rigidity and finalism.

Let us now briefly review Bergson's central thesis before proceeding with more detailed discussion

of the intuitive method. In the first place, the only reality recognized by Bergson is the flux of change. The universe, being a stream of perpetual change cannot consist of a "something" which changes, for then it would remain the same throughout the various states of change. Change cannot be conceived as consisting of separate phases or states. It is continuous, and in so far as matter is concerned it is impossible to arrive at something stable of which we could say that it is "something" which changes. Thus, reality does not consist of solid matter, nor does it consist of thinking mind, as the extreme idealists would have it. It consists of living, creative evolution.

> "In vain, moreover, shall we seek beneath the change the thing which changes: it is always provisionally, and in order to satisfy our imagination, that we attach the movement to a mobile." (Creative Evolution, p. 327)

Such is Bergson's conception of the universe - one continuous flow in the process of living; and evolution is the movement of this flow. The universe then becomes a vital surge or élan vital, without beginning or end. This is the underlying concept in his philosophy. No beginning can be assumed, for such assumption would contradict the concept of change: a beginning would imply something which was before the élan vital,

that is, something other than change.

Intuition of Pure Duration

Bergson's arguments for the universality of change involve the consideration of the function of the intellect. It is in this connection that he has been often regarded as an anti-intellectualist, or as one who completely forsakes intellect for a purely mystical intuition. Such is not the case, however. He considers intellect as having evolved in the long evolutionary process for the purpose of action which we call life. This view in no way depreciates the function of the intellect. It merely points out that in order to be effective as an instrument in life activities, the intellect, by cutting up the flow of change into apparently static objects, misrepresents reality. It is able to interpret only the discontinuous and static objects in space and time. It is unable to envisage the continuous flow of becoming, and therefore represents evolution as a series of states. Consequently intellect cannot give us a true interpretation of life. It has given us such products as mathematics and logic, but what do these tell us of life? And since intellect is the main instrument in our scientific endeavors, science too, cannot tell us anything about the living process.

How then can we have knowledge of reality? Bergson's answer is that the only faculty by means of which we can know reality is intuition. From his description of intuition we can see that it is closely allied with instinct. Instinctive behavior is such that it makes us become one with the changing flow of reality. He speaks of instinct as a form of sympathy, and intuition is simply instinct which has become aware of itself. Intuitive knowledge, therefore, is of the nature of aesthetic appreciation, such as one experiences when viewing a beautiful painting or listening to a symphony. There is a certain wholeness to this experience, and one becomes part of it, or one becomes the wholeness itself. It is in this manner, through intuition, that we enter into the continuous flow of life.

Then again Bergson speaks of intuition as a kind of knowledge, common in various degrees to all living things: a simple form of consciousness. This means only that from the form of consciousness common to man, he infers some form of consciousness in all life. However, his logical right to make such an inference may be questioned.

Intellect, as already indicated, is a practical faculty, and reality as represented by it is not a

flux of change, but a collection of static objects extended in space and time. Having evolved as an instrument of action, the intellect serves our practical purposes by cutting across the living flow of reality and by carving out of it material objects. It segments the flow of change into separate points, movements and intervals. These segments of space and time do not inform us of the real flow of duration. The entire operation performed by the intellect is like that of the motion picture camera: it takes a vast number of slightly varying still photographs which in themselves do not show any movement. It is only through intuition that we can become aware of our own participation in the life of continuous change.

Bergson regards consciousness and reality as being of the same sort, since both are a continuous change. He thus identifies the two.

> "But instinct and intelligence, we have also said, stand out from the same background, which, for want of a better name, we may call consciousness in general, and which must be coextensive with universal life." (Creative Evolution, p. 204)

Closely bound up with his doctrine of intuition is his treatment of time. According to him, the mathematical or scientific concept of time has been imposed by the intellect upon material things. It has introduced

units of time in the same manner as it has carved out units of space in the form of objects and distances. This sort of time is necessary for the practical purposes of action, but it does not form part of reality. The flow of reality knows no such time as that of succession of moments. Reality is duration; and the intuition of life is the intuition of duration. This is Bergson's concept of time which is an essential corollary to his concept of intuition.

> "For our duration is not merely one instant replacing another; if it were, there would never be anything but the present - no prolonging of the past into the actual, no evolution, no concrete duration. Duration is the continuous progress of the past which gnaws into the future and which swells as it advances." (Ibid., p; 7)

The intellect can know only common-sense or scientific time. True duration can be experienced only by intuition. When we become one with the universal flow of life, we also become one with duration as it pulsates through the universe as a whole. Or in Bergson's own words, "Pure duration is the form which our conscious states assume when our ego lets itself live, when it refrains from separating its present state from its former states." The various states which are known to the intellect as separate and succeeding, melt into each other and form an organic whole without any past, present or future.

It is in memory that duration shows itself most clearly, for it is here that the past survives in the present.

> "These memories, messengers from the unconscious, remind us of what we are dragging behind us unawares. But, even though we may have no distinct idea of it, we feel vaguely that our past remains present to us." (Ibid., p. 7)

Intuition of Elan Vital and the Meaning of Intelligence

The classical theories of evolution were inclined toward scientific materialism; they all conceived evolutionary process on mechanistic lines. Consequently there was no need for these theories to postulate the existence of mind or purpose in order to explain the reason for the evolutionary process.

Bergson questions the mechanistic conception of the universe. He contends that all biological phenomena, as well as the phenomena of the universe as a whole must have a hormic explanation which implies a freedom of choice of means by which the end may be attained. Mere adaptation to environment and chance survival of the fittest are insufficient reasons to explain variations and sudden mutations in species. In a sense the universe is indeterministic. Evolution is truly a creative process, in the sense of an artistic creation: there is an impulse or an undefined want which exists beforehand. Nor is

there any definable objective in this process. The outcome is therefore unpredictable: there is no determinism.

The question of freedom had always been one of most vital interest to all philosophers. Is activity, which to us appears free, really free in the sense of not being determined? In other words, is there an unpredictable element? Approaching the problem from the viewpoint of creativity, Bergson shows that the universe is an incessant creation. When we raise the problem about our own freedom, we are actually wondering if our activity is a process of creativity, or if creativity is impossible.

The problem of determinism as opposed to freedom of the will arises out of our common-sense view of reality: a view of objects in time and space. On the other hand, when we see that life and consciousness are in duration and cannot be measured at all, when we see that conscious states are qualities and not quantities, not independent and distinct from each other, but interpenetrating and permeating the living individual, the problem of determinism disappears. Then we can see free will as the creative power of the individual. The scientific view of life as consisting of individual states and actions must inevitably lead to the conclusion that these actions are determined, either by causality or by teleology. But the intuitive view of life shows it as indivisible into

states and actions. Therefore when we see it intuitively as a unified creative whole, we realize its freedom.

If adaptation to environment had been the principle of evolution, argues Bergson, the evolutionary process would have ceased thousands of years ago, for even in those remote ages countless species were already adapted to their environment.Thus he postulates a principle which must be driving the organisms to greater and greater efficiency. This postulate, however, does not solve the problem, for the question still remains: Why should a little hydra be "unhappy" in its present state of adaptation? Why must there be greater and greater efficiency? Since Bergson claims no beginning or end for his creative process, he cannot claim that there is any evolutionary change, for the indeterminate élan appears to have an objective in this creative process, the objective being greater and greater efficiency.

On the basis of this argument life is a principle of chance; the élan vital could as well have flowered out in entirely different forms and different channels than the ones it has followed. If it does not direct the evolutionary process into definite and determined forms, it has no bearing on evolution. It is true that Darwinian principles do not explain the why of evolution, but neither does the postulated élan vital.

Therefore, in pointing out the weaknesses in the mechanistic explanation of life, Bergson leaves himself open to criticism, for the continuous impulsion of élan vital appears to be in a definite direction. If there is a direction, it is to that extent determined.

It is in his treatment of the self that Bergson aims to show the freedom of the will. The intellect views the world as a vast collection of isolated objects and events. When science studies physical events, it sees them as isolated units which are tied and related by external laws of causation. In the same manner psychology views the self, as a collection of conscious states succeeding one another. Scientific interpretation of the world is therefore deterministic. According to Bergson such interpretation is true only of actions taken in isolation, which is a false intellectual abstraction. The life of the individual, however, is not a succession of changing states. When it is considered as a continuous flow it is seen to be free and undetermined, for there is no action then which comes before, or follows another. There is accordingly no enduring self which undergoes successive changes. The assumption of an Ego is therefore illusory. The Ego and the things in time and space are conceptual mechanisms for the purpose of action; in actual reality there is only change.

Bergson's evaluation of science is based primarily on his consideration of it as a useful intellectual instrument for the purpose of practical activity. It does not furnish us with the knowledge of the reality of change.

> "Positive science is, in fact, a work of pure intellect. ... Now, when the intellect undertakes the study of life, it necessarily treats the living like the inert, applying the same forms to this new object, ...But the truth we thus arrive at becomes altogether relative to our faculty of action. It is no more than a symbolic verity." (Ibid., p. 214)

One of the basic conceptions of science is that of causality. But in the nature of life and consciousness there is that which is essentially free will; it knows no causality. Science extends its view of causality to the living world of consciousness, thought and will. But intuition shows us an entirely different view of life; it is an incessant becoming in which there can be no prediction, because no event is ever repeated - it is a continuous new creation.

It is unfortunate that Bergson has no appropriate language at his disposal in order to present his views with greater precision and clarity. For example, such terms as "new creation", unless employed in an entirely new sense, are contradictory of his general position of continuity or duration. To begin with, duration does indeed imply the appearance of novelty. But besides this

mere tautology there appears a contradiction in Bergson's critique of the scientific view of the world. That which is novel intrinsically implies something which is no longer novel, something which is unlike the newly created. This distinction introduces at once the elements or concepts of the space and time of science. Hence, Bergson encounters difficulties in trying to escape from these scientific concepts.

Instinct and Intelligence

> "Now, since instinct is nowhere so developed as in the insect world, ... it may be said that the whole evolution of the animal kingdom, apart from retrogressions toward vegetative life, has taken place on two divergent paths, one of which led to instinct and the other to intelligence." (Ibid., p. 149)

On numerous occasions Bergson seems to introduce a sharp distinction between instinct and intelligence. It may be argued from the standpoint of the evolutionary process that he has overstated the distinction between these two functions. Instinct and intelligence are not two entirely distinct psychological functions; they are only two aspects in which mental process may be considered. All mental functions are both instinctive and intelligent; instinctive to the extent that they are determined by innate mental structure, and intelligent to the extent that they are progressively adaptive to the changing environmental circumstances. Man, for example, in whom

intelligence predominates, has not completely abandoned instinct; and in the lower animals many types of behavior for which no instinctive mechanisms have been provided, have to be learned.

Having separated instinct from intelligence on the level of human beings, Bergson proceeds to discuss the function of each. From this discussion we learn that instinct is very closely related to intuition. In fact, intuition is a disinterested self-conscious instinct.

> "Instinct is sympathy... But it is to the very inwardness of life that intuition leads us - by intuition I mean instinct that has become disinterested, self-conscious, capable of reflecting upon its object and of enlarging it indefinitely." (Ibid., p. 194)

Instinct and intellect are two modes of knowing on the part of living organisms. It is evident here that Bergson's concept of knowledge is absolutely new as compared with those of the preceding schools of European philosophy. Can we speak of instinct as a form of knowledge, unless by knowledge we mean a form of intuition, or a mystic feeling? In animals lower in development than man instinct is predominant. It is assumed, nevertheless, that there is some lowly form of intellect even in these organisms. In the human species, in the process of evolutionary development, instinct gave way to intellect.

Knowledge which is based on instinct does not require experience. We find this condition best exempli-

fied in insects. For lack of a better word Bergson is obliged to use the word knowledge, but his elaboration of it in pointing out the ways in which instinctive knowledge differs from intellectual knowledge, still leaves one perplexed over what is really meant by instinctive knowledge. Bergson calls it intuition, and reiterates again and again that intuition is the only knowledge of the really real.

Life is one vast, continuous movement, and the only reality is duration - the life itself - which is change. Space and inert matter in it, as conceived by science, simply do not exist. In this connection his position may be justified, for even science has finally reached a point where the conception of the solid parts of an atom has been replaced by that of electro-magnetic charges - "matter" is just not there. In the continuous movement of life the intellect turns attention to those phases of the movement which are of immediate interest to our action. The rest of the movement appears to the intellect as retarding the advance or even falling downward, just as of two trains moving in the same direction at different rates of speed, the one travelling more slowly will appear to an observer in the other to be moving in the opposite direction. So, carried along as part of this movement of life,

we view the movement about us and see it as inert matter.

It is in this manner that Bergson introduces us to the notion that intellect does not give us true knowledge of reality. It gives us merely a sense of relationship between the world and our survival needs. This apect of reality implies limitations imposed by the intellect. Only through intuition can we know reality as it is. Intuition is the consciousness of life that we have in living; we can know life only by living it, and not merely by analyzing it intellectually. Intuition is a method of fusing consciousness and life so that they become one.

The entire problem of instinct versus intellect becomes easier to understand if we approach it by way of considering consciousness. Purely instinctive behavior presupposes complete absence of consciousness; that is, absence of awareness of the self as the subject of this behavior and the awareness of the objective world to which the self reacts. In other words, consciousness is the awareness of, or the insight into the relationship between the self and the not-self. Such awareness is most highly developed in man. However, the general consciousness of which Bergson speaks, and which is synonymous with life itself, is not the consciousness common to each individual. This general consciousness is instinctive knowledge; it is

intuition.

> "For want of a better word we have called it consciousness. But we do not mean the narrowed consciousness that functions in each of us. Our own consciousness is the consciousness of a certain living being, placed in a certain point of space." (Ibid., p. 259)

Thus we see that Bergson regards instinct as not entirely devoid of consciousness. Here he employs the term in its most general sense, meaning a certain amount of awareness. Perhaps man's intellect is incapable of comprehending the kind of consciousness which is present in insects, claims Bergson. Using the common meaning of the term, he would say that instinctive knowledge is mainly unconscious, but it still remains knowledge. Intellectual knowledge is essentially conscious.

Why does Bergson call instinct, knowledge? He does so because in his philosophy of duration true knowledge is possible only when the intellect abandons itself to impulse, and thus allows the individual to become one with the living flux. This process is a kind of sympathy which issues in an instinctive apprehension of the life impulse itself. Hence the criticism directed against Bergson as being an anti-intellectualist.

He presupposes some kind of mentality not only in lower organisms, but even in plants. Consequently since there is mentality, there must be knowledge, even if it is of the lower order of instinct. But by what logical reason

can we endow these lowly organisms with a kind of consciousness or mentality which is entirely human? By claiming that instinct is purely a psychical activity, Bergson contradicts his general concept of the flow of life. It is neither psychical nor physiological; there is no sense in trying to bifurcate the activity. In this respect his philosophy may be considered as dualistic, with life on the one hand and matter on the other. Life is a vast vital impulse which tends upward; matter is the residue of the impacts of life - it is a downward tendency. There is thus a double movement of ascent and descent. In the evolutionary process these two movements meet and grapple with each other. At least such is the view of life and matter as they appear to immediate observation.

The intelligent view of things is a distortion of reality. It does not follow, however, that intelligence should be completely renounced. The task of philosophy is to bring instinct back to intelligence, and make it function as it used to function in the primitive human beings and as it still functions in lower organisms. That is, philosophy should make use of intuition in grasping the simplicity of reality; it should make it possible for us to live life, and not merely to be its spectators.

The basic question which Bergson asks is the same as the one asked by Kant: Is it possible to have a

science above all sciences, a science which would give us the knowledge of reality in itself? Is it possible to have a true metaphysic? Kant's answer was that such knowledge is impossible; it is impossible to know things-in-themselves. This conclusion led to the relativity of knowledge; and if knowledge is relative, then there is no true knowledge. Bergson studied the anomaly of Kant's theory and concluded that a theory of knowledge must be part and parcel of the theory of life, for knowledge is but the outcome of life, and exists for life. He therefore deviated from"the Kantian distinction between the matter of knowledge and its form". Nevertheless it is possible to interpret Bergson's "duration" or "the process of becoming" as just another name for Kant's "noumenal world" or "the thing-in-itself".

Intuition then is the faculty by means of which we become one with the moving flow of life, and in this manner know life. The best example of intuition at work appears in the creations of great artists. Sometimes this intuitive element is called genius.

> "That an effort of this kind is not impossible, is proved by the existence in man of an aesthetic faculty along with normal perception." (Ibid., p. 194)

Men of genius have a power of penetrating deeper into reality, a power of entering by sympathy into their subject. In this connection Bergson cites an example of a symphony.

When we enjoy a symphony we do so because we allow ourselves to enter into it. We experience it as a whole; we actually live it.

> "As to the original theme, it is everywhere and nowhere. It is in vain that we try to express it in terms of any idea: it must have been, originally, felt rather than thought." (Ibid., p. 189) .

Bergson's concern with the perennial philosophic problem of knowledge takes him into a lengthy analysis of the concept of "nothing". According to him this is a false concept. "To represent 'Nothing', we must either imagine it or conceive it." Since Nothing cannot be an image, (for then it would have to be an image of something), it must be only an idea. Let us suppose that the mind represents

> "any existing thing whatever as annihilated; - but if the annihilation of anything by the mind is an operation whose mechanism implies that it works on a part of the whole, and not on the whole itself, then the extension of such an operation to the totality of things becomes self-contradictory and absurd, and the idea of an annihilation of everything presents the same character as that of a square circle: it is not an idea, it is only a word." (Ibid., p. 305)

When we try to imagine nothing, what we are really imagining is the absence of something, but our idea is still of that something which we imagine to be absent. On this ground Bergson argues that the living reality is absolute, and its not-being cannot be imagined. The questions about nothingness, creation, etc., which creep into our

thinking, are therefore false and irrelevant; they have no answers.

> "Now, if we could prove that the idea of the naught, in the sense in which we take it when we oppose it to that of existence, is a pseudo-idea, the problems that are raised around it would become pseudo-problems. The hypothesis of an absolute that acts freely, that in an eminent sense endures, would no longer raise up intellectual prejudices." (Ibid., p. 302)

If nothingness is impossible of conception then we rid philosophy of all tendencies toward dualism. This is not an attempt on the part of Bergson to solve the old problem of dualism; it offers us a point of view from which the problem cannot arise, since it is only duration which is considered as the final reality.

> "To sum up, for a mind which should follow purely and simply the thread of experience, there would be no void, no naught, even relative or partial, no possible negation. Such a mind would see facts succeed facts, states succeed states, things succeed things... It would live in the actual, and, if it were capable of judging, it would never affirm anything except the existence of the present." (Ibid., p. 319-20)

Creative Evolution

According to Bergson true evolution is creative, and time is an essential element in this process. Time, however, is not the time of science; it is duration - the only reality. From his viewpoint of creativity he criticizes Spencer's system of philosophy which was the outcome of the new science of evolution. Spencer's system was

based on classification and generalization. Bergson aims at the explanation of the sciences, including the biological science of evolution, by showing the genesis of matter in the evolution of life. This is an attempt to break away from the mechanistic explanation of life, which was the underlying principle in Spencer's philosophy.

> "Let us say merely that the usual device of the Spencerian method consists in reconstructing evolution with fragments of the evolved." (Ibid., p. 396)

The mechanistic explanation is the piecemeal interpretation of the sciences. But

> "the philosopher must go further than the scientist. Making a clean sweep of everything that is only an imaginative symbol, he will see the material world melt back into a simple flux, a continuity of flowing, a becoming." (Ibid., p. 401)

The vast numbers of living forms are not things in the sense of being the ends of evolution; they are tendencies which the impulse of life follows. They are only the means by which élan vital pursues the work of constant creation. Two of these tendencies which play the most important role in Creative Evolution are intelligence and instinct. In Bergson's language the term "mind" is inclusive of these two plus consciousness. The task which he sets for himself in his Creative Evolution is to show the common genesis of matter and intellect in the single reality of life. The object of philosophy should be to develop a conception of reality which would transcend the intellect.

Both intellect and matter evolved from something primordial which contained them both. They have their genesis in a much wider existence. In explaining the genesis of the intellect, however, Bergson overlooks the fact that it is the intellect itself which is explaining its own genesis. In what manner can this process be accomplished when it is impossible to view the intellect from any other standpoint but the intellectual? But in Bergson's view the intellect is only a condensation of the much wider consciousness. In the world as seen by science intellect is already presupposed in the things and the laws explained. Science, however, does not explain the genesis of the intellect itself. It appears, therefore, that the intellect is something given and preexisting the universe. Thus Bergson arrives at the idea that knowledge and existence are synonymous.

> "Knowledge becomes relative, as soon as the intellect is made a kind of absolute. -- We regard the human intellect, on the contrary, as relative to the needs of action... And, precisely because it is not independent, knowledge cannot be said to depend on it: knowledge ceases to be a product of the intellect and becomes, in a certain sense, part and parcel of reality." (Ibid., p. 168)

Bergson's object is to get rid of the ancient dualism in philosophy. The notion which he introduces is that the intellectuality of the mind and the materiality of things are not due to separate entities, mind and matter;

they are not distinct movements, but two processes in a single movement, each adapted to the other.

> "Intellectuality and materiality have been constituted, in detail, by reciprocal adaptation. Both are derived from a wider and a higher form of existence. It is there that we must replace them, in order to see them issue forth." (Ibid., p. 205)

In man, at his present stage of development, intuition is an "indistinct fringe" around the intellect. It has been pushed out of the centre by the intellect, because it is less useful in action. But it has a more important use which makes it desirable to have it back in greater prominence. By means of intuition we perceive the reality of our life as a pure duration, in which the past as memory exists in the present, and in the form of our will presses forward into the future. If we force back memory and suppress our will; that is, if we concentrate on one point of our existence, we get a glimpse of true reality into which all actuality is gathered.

Evaluation of Bergson's Intuitive Method

Like every other metaphysical system, Bergson's philosophy is an expression of the spirit of the times - times which were witnessing a rapid growth of disappointment in the inability of science to explain the ultimate. There is thus a certain disregard for positive science in Creative Evolution. Science, according to the intuitive

method, has a very limited field of operation. Philosophy must accomplish what science has failed to do. As consequence of Bergson's general attitude toward the scientific method, he has been variously accused of scepticism and nihilism. Despite these accusations, it is not evident from his main work that his intention was to replace science completely with the metaphysic of intuition.

From the historical point of view there appears to be close relationship between Bergson's intuitive method and the German romantic movement of the nineteenth century. The basic idea was that in order to know the really real, intelligence must be transcended by a form of feeling or intuition. This notion was the outcome of the failure of science to explain all life on purely mechanistic basis. The general spirit of the age, the spirit which Bergson had systematized in his philosophy, was that the ultimate being of the universe should be sought in terms of life, activity and will; the intellect should be regarded only as a guide in attaining knowledge relative to our practical needs. Philosophy must be concerned with knowledge of life itself, and not merely with the practical side of activity.

Does the above viewpoint imply that Bergson underestimates the value of intellectual knowledge? Not at all. It simply means that he surrenders reason to the exclusive use of practical man, but he asserts the possi-

bility of developing a faculty which has been latent, a faculty by means of which a philosopher may gain a purely disinterested knowledge of reality. He offers no logical reasons for his views; first of all, because logic plays no part in his philosophy, and secondly, because he seems to be convinced that the reader is constantly with him in following his poetic style. At the same time, although he has in some parts of his system identified himself with the pragmatists, he also claims that the latter cannot have true knowledge of reality.

The distinguishing feature of the philosophy of intuition is the claim to the possibility of transcending the purely human point of view. If philosophy must be "an effort to transcend the human condition", then Bergson has no logical foundation in criticizing the idealist theory of the absolute.

The object in his Creative Evolution consists, first of all, in limiting scientific type of knowledge strictly to the mechanical aspect of the universe, and secondly, in making out a case for the possibility of intuition. To what extent has he succeeded? To what extent does his doctrine lay a foundation for a new philosophy? As already pointed out, scientific concepts are not true interpreters of reality, according to Bergson. They are provisional and symbolic. They interpret the

nature of matter only to the extent to which matter satisfies our practical needs. From this point of view matter and life are known only as they are for us, and not as they really are for themselves. It is only in the form of mathematical relations that the true nature of matter may be expressed. Hence, the intellect is capable of representing the truth only when it speaks in the language of mathematics. In all other sciences the intellect speaks in terms of symbolic concepts only.This may be so, but if the symbols give us sufficient interpretation of matter which satisfies our needs of action, then the assumption of any other method of interpretation is superfluous and a mere fancy.

By assigning the function of thought to the purely mechanical sphere, Bergson predetermines the form of intelligence by stating that its function is not judgment but action. He thus imposes an arbitrary limitation upon intelligence. He presupposes the nature of intelligence before setting out to discuss its function in detail. Besides this arbitrary limitation of intelligence he also introduces another argument in favor of intuition. He claims that "intelligence feels itself most at ease in the presence of unorganized matter." This is "the portion of the material world to which our intelligence is specially adapted." However, just because intelligence has been

successful in the field of positive science, does not prove its failure as a method in other fields.

In the first two chapters of his Creative Evolution Bergson offers us a very patient study of the evolutionary process. Here his object is to show that other factors than mechanistic are necessary to explain the process. He therefore postulates a psychical force, an élan, a dynamic principle which is the mainspring of evolutionary progress. But we are still left puzzled about the nature of élan vital itself. Can we detrmine its nature by empirical study, or will intuition give us knowledge of it? It appears to be the last avenue closed to further knowledge. It is the "noumenal" of Kant and the Absolute of the idealists combined. In the end we are still obliged to rely on the study of the nature of experience in order to acquire further knowledge of the facts of evolution.

The ultimate kind of knowledge is intuitive, says Bergson, not intellectual. It must be recognized, however, that the ultimate source of knowledge lies in the nature of the self. Therefore, in order that we may have intuitive knowledge of life we must turn to the study of the processes of thought instead of the processes of organic evolution. But Bergson turns to the study of evolution without recognizing the function of thought and intellect

in this study. Nevertheless, his consideration of evolution is empirical. His metaphysics and his epistemology both depend on this empirical study. However, having disregarded the intellect as being of any value in arriving at true knowledge, he is left with mere hypothesis of an ungraspable "something" which can have meaning only when it is interpreted in terms of an élan, to be known only by intuition.

Bergson contrasts instinct and intelligence mainly on the basis that the latter concerns iteself solely with action. But can the term knowledge be accepted here in the same sense in which he employs it in connection with both faculties? Can instinct be considered as knowledge in the philosophical sense of the word? It is true that we can speak of instinctive behavior, but when we question the "knowledge" involved in this behavior, we have no right to assume that there is in it any human kind of knowledge. Bergson's position is purely anthropomorphic. If it is at all possible to attribute knowledge to instinct, it must be a sort on "unconscious knowledge". Whatever this sort of knowledge may be, he has no language in which to define it. How can there be knowledge without consciousness? "Unconscious knowledge" has no meaning; no meaningful proposition can be made about it. We cannot escape from our own consciousness, and everything that we

are capable of knowing must of necessity be known in terms of our own self-conscious life. Any critical examination of knowledge must necessarily be an examination of consciousness.

"Life is a movement", says Bergson; "materiality is the inverse movement, and each of these two movements is simple, the matter which forms a world being one undivided flux, and undivided too, the life which courses through it and carves out in it living beings." According to Bergson, matter is an interruption in the pure creative activity. There is no explanation offered for this interruption in the free creativity of the vital force. At the same time it is not clear why the movement of matter should be in the opposite direction to that of life. Are they not both the outcome of the same pervasive élan vital? The idea is a fine example of metaphysical speculation, but does not advance us in our knowledge of either matter or life. The order in matter can be known only by intelligence, which is implicitly contained in the original creative force. The creative force is the living impulse. Nevertheless, matter becomes somehow opposed to this living impulse.

A very important motive in Bergson's thought is that in order that there be knowledge, mind must become one with that which it knows. By identifying subject and

object he destroys knowledge in the only sense of the word in which it has positive meaning. Knowledge involves a relationship between the two terms. When we identify the terms we are no longer dealing with knowledge, but with some mystical faculty. In Bergson's philosophy this faculty is intuition. But no matter how hard one tries to "enter the stream of life", one's consciousness and the intellect are always on hand to hold one fast to empirical actuality. That is, there is always some awareness; there is always some knowledge, while Bergsonian knowledge constantly eludes us. In the process of regression from the intellectual to the intuitive knowledge the knowing self disappears. What is knowledge then?

Bergson's primary object had been to get rid of the problems of dualism, but by developing an intuitive method he cannot escape dualistic tendencies. This dualism appears first in the self as divided between the intellecting self and the intuiting self. The basic opposition between the two selves leads him to a dualistic thinking in his entire cosmology. Matter is opposed to spirit, as they move in opposite directions; the "homogenous" space is opposed to the "heterogenous" duration; science is opposed to metaphysics as the only avenue to knowledge. It appears that Bergson is led into this dualism by confusing the empirical "real" with the abstracted "real".

Space is described as an absolute entity, devoid of all qualitative characteristics. It is a "reality" not characterized by matter which fills it. How it is possible to conceive something which is real, but which has no qualities, Bergson does not tell us. If space is a homogenous entity it must be known by its qualities; and the only qualities which characterize space are material objects. But if this is the case, space is no longer an entity in itself, but merely a system of relations among objects. Here it is evident that Bergson takes for empirical "real" what is actually an abstraction or an ideal. Space is not a reality, neither from mathematical nor from purely metaphysical viewpoint. Whitehead points out the above fallacy quite aptly when he writes:

> "For example, it is habitually thought that the certainty of mathematics is a reason for the certainty of our geometrical knowledge of the space of the physical universe. This is a delusion which has vitiated much philosophy in the past, and some philosophy in the present."
> (Science and the Modern World, p. 32)

In Whitehead's terms this confusion of Bergson may be called a fallacy of misplaced concretion.

Space is identified with time in the sense that both form a single absolute: space as a homogenous entity, and time as duration. Bergson then goes on to criticize the function of scientific time in so far as knowledge is concerned.

> "When positive science speaks of time, what it refers to is the movement of a certain mobile T on its trajectory ... But it always considers moments, always virtual stopping places, always, in short, immobilities. Which amounts to saying that real time, regarded as a flux, or, in other words, the very mobility of being, escapes the hold of scientific knowledge." (Creative Evolution, p. 366)

Just as in space science sees numerical order in things, so in time it sees similar order in moments. This aspect, according to Bergson, is not the knowledge of real space and time. Then he proceeds to empty space of its qualifying objects, and time of its moments. The result is a homogenous space in pure duration, or a spatialized duration. This is a meaningless concept, for space and time have reality only because of the things which they contain; in space it is the things and their relations, in time it is change and relative movement of things. In so far as human perception is concerned, space and time must remain separate. Our perception is based on certain ordering, which in space consists of the side-by-sidedness of things, and in time it consists of "before and after".

Duration as described by Bergson is outside human conceptual sphere; it is something beyond the limits of knowledge, something which must be felt rather than thought, and felt only when the "self lets itself live". As a matter of fact, there are no words to describe it. The idea may be aesthetically satisfying, but it relegates

philosophy to a sphere of mystic or religious experience, which is not at all what Bergson intends philosophy to be. When we regress from the mental life of cognition and intellection to a form of tropismal intuition, we are regressing to a life of a protozoan. And why this regression? In order that we may "know" life as it really is, we are told. But however much Bergson would wish us to relinquish cognition, feeling, volition and consciousness, this we simply cannot do. Should we by some magical means grasp life intuitively, then his philosophy will have been in vain, for we shall no longer be in a happy position to reflect upon it. To know, to conceive, to imagine, to interpret and to reason - all these human functions involve consciousness. Should we rid ourselves of these in favor of intuition, we should no longer be conscious of "pure duration" or "the flux of life". Let us suppose that we are successful in immersing our individuality in the flux of life, what should we gain?

In the state of Bergsonian pure organic being there can be no moral problems, no problems of freedom of the will. Freedom involves possibility of choice, which in turn requires consciousness, cognition and intellect. That is, it is only on the level of the human intellect that questions relating to freedom and morality can arise. When Bergson speaks of absolute freedom in the intuitive

knowledge of life, he is no longer dealing with human freedom, nor with moral problems. He is really speculating on the "mechanical necessity" as envisaged by human intellect. The human concept of freedom cannot be meaningfully applied to organic evolution or to an act of "a free creation of a world".

In his discussion of causality Bergson states that the scientific view of nature is always in terms of cause-effect sequence. There is no such sequence underlying the moving flux of life. He does not stop to consider that from the human point of view - and there is no other - causal interpretation is the only one which is meaningful. It is absolutely impossible to escape the anthropomorphic interpretation of the universe, for whatever our conception of knowledge may be, it is always knowledge for us.

The problem of causality is related to that of freedom. Neither freedom nor causality have any meaning outside the sphere of human activity. In the end it is always the nature of the self with which we must deal, and the self can never be transcended. It is evident that Bergson confuses the moral issue which is purely human with a much vaster one which is cosmological. It must be admitted that perhaps through his intuitive knowledge the universe may be seen as a free agent in its creative

activity, but this knowledge in no way alters the actual position of mankind with respect to freedom. Perhaps it may be possible to develop the power of intuitive perception to the utmost degree, but this does not mean that the possibility of choice, and the vast number of obstacles to action are thereby removed. By solving the cosmological problem of freedom Bergson does not thereby solve the moral and ethical problem.

In this critical survey the aim has been to show that the intuitive method adds nothing to knowledge as understood in the human, and the only sense of the term. It annihilates knowledge, since it destroys cognition and all the other psychological factors which characterize human experience. Therefore Bergson's claim that the intuitive method will solve philosophical controversies can never be verified. To prove the soundness or the truth of this method we must always resort to the intellect. But once we do this, we are no longer in the sphere of intuition. When philosophy becomes a method of intuition, it can no longer be called philosophy; it becomes wholly inexpressible. It can deal neither with percepts nor concepts; neither can it deal with ideas, for these must be expressed in intellectual terms.

Having sharply contrasted the scientific

method of knowledge with that of intuition, Bergson does not suggest that science should be completely abandoned. Nevertheless, the intellect which underlies the scientific method should become secondary and supplementary to intuition. Science as a practical method to serve the purpose of action , is alone insufficient to give us knowledge of the true reality. From this it would appear that intuition is a development of the intellect.

> "That an effort of this kind is not impossible, is proved by the existence in man of an aesthetic faculty along with normal perception." (Ibid., p. 194)

It is quite permissible to compare the intuitive method with aesthetic perception, but it is not correct at the same time to speak of intuition as if it were a higher form or a higher development of the intellect. If our main objective is to concentrate on intuitive knowledge, it is not quite clear why science should still remain an important method.

What then is the difference between the scientist and the intuitionist philosopher? It appears that the philosopher who knows by intuition will never be able to express himself in terms of language or in any other symbolic form. The scientist, although he may never "know" in Bergson's sense of the word, is able to express himself in terms intelligible to other minds. This is a very important factor, for knowledge is not simply an affair of

individual human beings. It is primarily a social enterprise. In fact, upon careful consideration we find that knowledge is not knowledge at all, unless there is communicability.

Although there are all these difficulties involved in the intuitive method, the philosophy in general had greatly stimulated the interest on the part of the scientific world in what may be called the spiritual nature of the universe. It is true that so far the methods of science are incapable of dealing with the "unexplainable something", but, if Bergson be right, some day science and philosophy may become a single method (neither wholly intellectual, nor yet entirely intuitive), which will give mankind a clearer understanding of the nature of life and being. It is a possibility of a common objective in both science and philosophy that Bergson is trying to grasp. What he calls intuition is possibly a more fully developed form of intelligence, which may yet be acquired by some future generations of mankind. It is with this idea in mind that Professor Husson, for example, supports Bergson's philosophical method by stating that

> "The intuition supposes intelligence to be an effort of reflection, which in man is possible only with the help of analysis, that is to say that fundamentally it is a form of intelligence, in the sense of the word which is usually ignored by the critics."
> (L. Husson: L'Intellectualisme de Bergson, 1947)

WHITEHEAD'S PHILOSOPHY OF ORGANISM

Whithead and Bergson

The main theme of Bergson's intuitive approach is reechoed in Whitehead's philosophy of organism. At least both philosophers had pursued a direction of thought which was a complete deviation from the existing modes of philosophic thinking. In Whitehead's own words:

> "Bergson introduced into philosophy the organic conceptions of physiological science. He has most completely moved away from the static materialism of the seventeenth century." (Science and the Modern World, p. 212)

The main thesis of both philosophies arises out of the problem of knowledge: Man's relation to the rest of the universe consists of many more factors than that which we commonly understand as knowledge. From Whitehead's viewpoint it appears that such emotional elements as hope and fear are also important conditions comprising our broader knowledge of the universe. The unfortunate error committed by the previous philosophers has been that of abstracting knowledge in the sense of sensual knowledge from the other primary relations of man to the universe. This idea is stressed not only by Bergson, but also by the pragmatists, in the sense that knowledge is for action. The universe is not present only to the immediacy of our senses - it is an instrument for our action. On this ground it would appear that philosophy is a search for knowledge, but not necessarily knowledge in the sense of intellectual under-

standing only. The goal of philosophy, according to Whitehead, might be the mutual prehension or withness of everything in the universe. Outside of the sense of sight the other senses may give us a much more intimate idea of reality, through, what he calls, causal immediacy. There is some resemblance here to Bergson's intuition. The feeling of substance irrespective of its possible finality, is much more real than the logical or intellectual idea of it. Having broken away from the school of classical empiricists, Whitehead asserts that relations are "more" real than the "things" related. It is the felt wholeness of relations which is the only reality.

Difficulties in interpreting Whitehead

Upon first reading Process and Reality one must inevitably conclude that Whitehead takes an entirely new approach to metaphysics. There is an apparent attempt to eliminate the function of thought and still present a logically formulated cosmology. It is evident that such an attempt would be an absurdity, for, in the first place, there can be no philosophy without thought, and secondly, no philosophical scheme can be a universal abstraction. The removal of the subjective element from any philosophical scheme would involve the elimination of philosophy. This is not Whitehead's objective, however. But the

novelty of his approach requires a great imaginative effort on the part of the reader, since the ideas presented paint an entirely new picture of the universe. One is obliged to get rid of the existing notions of things, space and time.

When some future generation has clearly interpreted our concepts of science which at the moment are quite novel and unusual, Whitehead's philosophy will perhaps be accepted as the most logical systematization of these concepts. The present generation is probably not fully prepared to visualize this hew world which Whitehead presents to us. To obtain a true appreciation of his philosophical system one must be a mathematical physicist or a mathematician of the rank of Whitehead. To this extent he may be right in claiming that the philosopher of the future will also be a scientist, and a scientist will of necessity be also a philosopher.

Hence, to understand Whitehead's philosophy of organism in all its implications an extensive scientific training appears to be a prerequisite. Perhaps this condition should not be considered as constituting the main difficulty confronting a student of philosophy in his interpretation of Whitehead. But there is a real difficulty in understanding his language. In order to break away from the old ways of thinking one would essentially have to

discard the old vehicles of thought. To do so completely is an impossibility, and Whitehead's attempt to use old terms in expressing new relations results in considerable obscurity in his writings. Consequently there is bound to be some disagreement among those who wish to interpret him correctly.

Extent and Aim of Whitehead's Philosophy

> "I hold that philosophy is the critic of abstractions. Its function is the double one, first of harmonizing them by assigning to them their right relative status as abstractions, and secondly of completing them by direct comparison with more concrete intuitions of the universe, and thereby promoting the formation of more complete schemes of thought." (Sc. and the M.W., p. 126)

In these words Whitehead states concisely what the aim of philosophy should be. And it is this aim which his philosophy of organism is to fulfill. Speculative philosophy should concern itself with the framing of "a coherent, logical and necessary system of general ideas in terms of which every element of our experience can be interpreted".

Whitehead discards the universe of entities in space and time; he eliminates the points in matter and the instants in time. In their place he substitutes a "process conceived as a complex activity with internal relations between its various factors". These internal relations constitute the very being of all factors in the universe.

Because of the complex network of relations, science cannot give us a true picture of the cosmos by abstracting parts of it, and by dealing with them outside this network of relations.

Concerning the function of reason, Whitehead tells us that it is instrumental in attaining new ends. Reason, in his sense of the term, does not necessarily mean a conscious drive; it is more akin to feeling which constantly tends toward fuller experience. In man reason is instrumental in Deweyan sense. The feeling as conceived by Whitehead is a form of sensitiveness of bodies by means of which they take account of each other. It is not an intellectual kind of feeling, but is fundamental in the process of reality, and common to every part of nature. (There is some resemblance between this concept and Bergson's "sympathy"; with the latter, however, it does not extend to the entire universe).

There is another side to reason; it is that which seeks the basic understanding of things. It goes beyond the particular and immediate to discover the intrinsic relationships and connections. It is in constant search for internal logical consistency. At the same time it is reason which must arrive at some form of symbolism which would keep our ideas clear and thus prevent ambiguity. Reason is the most highly developed form of conscious

experience which in turn developed from an unconscious experience. It is the latter of which Whitehead speaks as "a feeling for the presence of everything else". It may be assumed that on the basis of this viewpoint the electro-magnetic activity in physical bodies as described by physical sciences is comparable to the emotional activity in living organisms. There are considerable difficulties involved in his use of the terms "feeling" and "pure feeling", but these will be dealt with subsequently.

It is clear that Whitehead has great respect for speculative thought as opposed to practical or common sense. Consequently it is his prime objective to bring metaphysics back to its time-honored position. Speculative reason should be freed from the bonds of practical necessity, in order that it may arrive at a system of ideas which could be applied to the whole of experience. Thus he defines progress in metaphysics as "an asymptotic approach to a scheme of principles only definable in terms of the ideal which they should satisfy."

The process of deduction is useless in trying to arrive at the "scheme of principles". That is exactly where former philosophies have failed, for we cannot start with certain elements which are clear and distinct, and proceed to deduce the rest of experience from them. It is on this account that Descartes' philosophic system breaks

down. Our experience does not contain any a priori clear and distinct elements. The aim od metaphysics should be to discover some common features in the confusion of experience. It should also break away from the dogmatism of the philosophic systems. It may be observed, however, that any philosophy which proclaims itself to be a system is bound to be dogmatic. Such appears to be the case with the philosophy of organism. Now, Whitehead claims that it is only in mathematics that we can start with clear and distinct principles, and that this procedure must be avoided in metaphysics. Nevertheless he proceeds to construct his organismic scheme by starting with definite categorial principles. Essentially there does not appear to be any sharp deviation of this procedure from that of the Cartesian "cogito". No matter how far back we may push the process which Whitehead advocates for metaphysics there is always a stop at some final principle which the philosophy of organism strives to avoid, but fails to do so. It becomes dogmatic to this extent.

For the moment we may overlook the discrepancies and certain overstatements, and see what further aims philosophy should have. The problem of metaphysics, then, is to discover general principles which may be universally applicable. Most philosophies have failed in solving this

problem because they were unable to look beyond their own narrow systems of ideas. They failed to notice certain relationships simply because they are always present and never absent. Consequently they missed essential generalizations. Not only does he criticize Descartes for having missed the essential point, but he also contends that Kant had deviated from the path of true philosophic endeavor which was founded by Plato and Aristotle.

What should be the true endeavor of philosophy? It should consist of a speculative metaphysics whose inquiry involves the ultimate problems of Being. The inquiry must be steadily directed toward "the ideal opposites, Permanence and Flux, the One and the Many". Another characteristic of such inquiry is the interest in pure mathematics. Philosophy must return to this main stream of metaphysical speculation.

> "It is its function to harmonize, refashion and justify divergent intuitions as to the nature of things. It has to insist on the scrutiny of the ultimate ideas, and on the retention of the whole of the evidence in shaping our cosmological scheme." (Ibid., p. 128)

When we consider Whitehead in relation to Kant we find that his aim was to remove subjectivism from Kantian philosophy. In the latter philosophy the objective world is constructed by the experiencing subject. In the philosophy of organism the subject itself arises out of the world which it feels; it constructs its world on the basis

of this feeling. From this viewpoint neither the subject nor the world are absolutely given. Consequently Whitehead questions Kant's method of beginning with a priori categories. The same question, however, may be asked of Whitehead. His approach is novel in the sense that his categories are no longer of the mind; nevertheless they may be interpreted as being a priori in the sense of being universal and thus preceding the mind. If these categories "grow up" with experience, they grow out of something, which in Whitehead's terminology is the universal process. They are therefore compresent with experience for the latter's discovery or prehension. To this extent they are "given" and a priori.

Critique of 17th Century Science and Philosophy

Since the philosophy of organism is the direct outcome of the most recent concepts of science, it is important for us to follow Whitehead's critique of the old concepts and their influence on philosophic thought. The common empirical interpretation of our knowledge of the universe derives from our scientific ideas. Science regards the world as consisting of separate pieces of matter located in space. This matter, by stimulating our sense organs gives us the sensation of Locke's primary qualities; the sensation in turn endows matter with secondary qualities.

Underlying these orderly related and localized pieces of matter there is the causal relationship; causation is the basis of the orderly scheme of nature. Such is the inevitable scheme arising out of the concepts of science.

The appearance of separate objects brings with it simultaneously an idea of causality. This relationship may be expressed in another way: in order that we may have an idea of causality we have to be at the point where the world of matter meets the world of mind. If we were constituted differently than we are, if we were capable of experiencing the world as a homogenous continuum, then perhaps the idea of causality would not appear. This idea is therefore a fact and a true one for experience at our level, where experience consists of separation and individuation of events. This same separation seems to require synthesis and unification. The underlying factor in this whole process of experience is the idea of causality. If human experience could be removed from the universe - if such possibility could be at all imagined - what would become of causality? From such train of imagination it is evident that causality is the meeting point of the experiencing entity and the entities experienced. The notion of causality is the outcome of our habitual interpretation of experience as a subject-object relationship.

Bergson had expressed an idea that causality is a sort of feeling before it becomes an intellectual concept. The origin of many of our ideas in our complex process of thinking may be traced back to a kind of primary feeling - a feeling coextensive with life itself. Whitehead's viewpoint is that this feeling is immanent in a very general way in everything in the universe. This feeling, he states, is an expression of that conformity or "withness" of things, which is one of the fundamental elements of the universe. It was essential for the philosophy of organism to substitute this primordial feeling for causality.

In dealing with the problem of causality Whitehead proceeds to point out the difficulties involved in the scientific conception of the universe. In the first place Hume's criticism of the concept of causality had never been satisfactorily met by science or by succeeding philosophies. The concept presupposes a cause-effect link without which there would only be regularity of sequence. Such regularity is by no means necessary. But the introduction of a connecting link involves the rejection of the scientific presupposition that nature consists of distinct configurations of matter in space. From our belief in the cause-effect chain there arises our belief in induction. But Hume's criticism of causality destroys this belief. Science does not justify our belief in causality; nor does

it justify our belief in induction.

Another criticism of science arises out of the problem of dualism of mind and matter. The problem was introduced into philosophy by Descartes, and it has remained a bad influence on all subsequent thinking. Whitehead argues that neither nature nor life can be understood unless they are fused together. The notion of each should involve the notion of the other. So long as we think of mind and matter as two separate substances, initially separate from each other, but later uniting in some unknown relation within a living organism, we can never reach any satisfactory solution. And science does not offer any explanation of the way in which these substances came together, nor how each affects the other. As a result of Cartesian dualism, according to Whitehead,

> "science took charge of the materialistic nature, and philosophy took charge of the cogitating minds. Some schools of philosophy admitted an ultimate dualism; and the various idealistic schools claimed that nature was merely the chief example of the cogitations of minds." (Science and the Modern World, p. 208)

The history of science has always been closely connected with that of philosophy. Very often the influence of philosophy upon science has been such that the latter became critical of itself. When philosophers today, such as Bergson and Whitehead, criticize science, it is not because they tend toward irrationality. It is because of

the fact that science which constantly aims at the utmost precision has reached a point where this precision is not attainable. It can no longer satisfy the demands of common sense for some finite enduring stuff, the foundation of our sense qualities. It cannot discover such stuff. It also eliminates all secondary qualities from the common-sense world. With the elimination of these, all values must also go by the board. There is nothing good, nor beautiful, nor ethical, nor religious in nature. The loss of values entails the loss of meaning. And if the world has no meaning, there can be no explanation for it. Consequently one is forced into a cul-de-sac where the only meaningful proposition that can be made of the world is that it is.

Such is the philosophical implication of the position of science. But from the viewpoint of science the world has meaning in the sense that there is apparent order in the operation of the universal laws. Whitehead points out that in order to make science possible, there must be more in the world than that with which science deals. Whatever this more may be, it adds the element of meaning or value. Common sense actually does not accept the universe as it is presented to us by science. The ethical, religious, moral and emotional factors are just as real for us as the "real" things with which science

deals. Why should science not offer some explanation for these factors?

> "The notion of physical energy, which is at the base of physics, must then be conceived as an abstraction from the complex energy, emotional and purposeful, inherent in the subjective form of the final synthesis in which each occasion completes itself. It is the total vigor of each activity of experience. The mere phrase that 'physical science is an abstraction', is a confession of philosophic failure. It is the business of rational thought to describe the more concrete fact from which that abstraction is derivable." (Adventures of Ideas)

It is in this connection that Whitehead introduces his notion of the "Fallacy of Misplaced Concreteness". His object is to show that philosophy made a mistake in refusing to accept such activities as sensations, consciousness, etc. as concrete actualities. We take only those things for real which have been abstracted from reality for special purposes by thought. One such abstraction is the whole world as conceived by science. It is Whitehead's aim to develop a new meaning of reality and "concreteness". According to him, philosophy still tries to "seek the forms in the facts", which is the lingering influence of Platonic philosophy.

> "We are now so used to the materialistic ways of looking at things, which has been rooted in our literature by the genius of the seventeenth century, that it is with some difficulty that we understand the possibility of another mode of approach to the problems of nature." (Science and the Modern World, p. 62)

The system of scientific concepts works well only for special purposes. But it completely fails to

account for things as they are. It leaves outside of its own pattern of concepts all moral and aesthetic experiences which must not be ignored as irrelevant. However, even within the boundaries of the scientific pattern there are certain concepts which are no longer adequate; and thus we see that modern physics is obliged to reject the materialistic concepts of the last century.

Whitehead is one of the very few modern philosophers who appear to have achieved a conception of what life is in its ultimate nature. According to him life pervades the universe. There are totalities and prehensions everywhere: universe is an organism. It is from this viewpoint that he criticizes Descartes so convincingly. Descartes' two opposed concepts of mind and matter actually negate the concept of life. However, the difficulty which arises at this point is in the definition of life. Both Whitehead and Bergson maintain that life is an organismic totality where there is no distinction between matter and form. On the basis of their views we may define life as a kind of transcendence, proceeding constantly toward the future and outward. The transcendence interrelates the future and the outward process of concretion, and makes it part of the immediate.

Whitehead questions the main presuppositions of

Cartesian space. If we reject Cartesian dualism we must also reject the separation of parts from parts, by which Descartes' space is characterized. A thing cannot be conceived as being in one particular place. If its activity is universally interrelated it cannot be localized; it is everywhere.

> "To say that a bit of matter has simple location means that, in expressing its spatio-temporal relations, it is adequate to state that it is where it is, in a definite finite region of space, and throughout a definite finite duration of time, apart from any essential reference to the relations of that bit of matter to other regions of space and to other durations of time." (Ibid., p. 84)

Thus Whitehead criticizes the theory of unique location which is one of the original sins of modern philosophy.

Descartes had excluded qualities from reality; for him reality is merely quantitative, and qualities are mental. Whitehead criticizes this bifurcation on the basis that it has introduced a mechanistic conception of nature into philosophy. The philosophy of organism tends to minimize the importance of quantity in favor of quality. Both are complementary aspects of reality where each continually passes into the other. What he is aiming at expressing is that quantity is always a quantity of some quality, and that all scientific research begins with the study of some quality. Quality, like substance, or like space and time,

is another example of misplaced concreteness. Whitehead's point is brought out clearly in the following quotation:

> "Of course, substance and quality, as well as simple location, are the most natural ideas for the human mind. It is the way in which we think of things, and without these ways of thinking we could not get our ideas straight for daily use ... The only question is, How concretely are we thinking when we consider nature under these conceptions? My point will be that we are presenting ourselves with simplified editions of immediate matters of fact, ... we shall find that they are in truth only to be justified as being elaborate logical constructions of a high degree of abstraction ... We have mistaken our abstraction for concrete realities" (Ibid., p. 77)

Underlying Concepts in the Philosophy of Organism

In his Process and Reality Whitehead begins with a set of categorial definitions which serve as guiding principles for the development of his entire scheme. According to him, these categories, both those of existence and the Categorial Obligations, are permanent characteristics of actuality. Unlike in Kant's categorical scheme, they are not imposed by the mind; they are independent of the mind. This is the most difficult notion in his philosophy, for one is naturally inclined to consider the mind as that which "discovers" and knows the categories. In the sense of Whitehead's universal process, discovery and knowledge are an intrinsic part of the universal process. From this point of view knowledge is creativity.

"The creativity is the actualization of potentiality,

> and the process of actualization is an occasion of experiencing. Thus viewed in abstraction, objects are passive but viewed in conjunction they carry the creativity which drives the world. The process of creation is the form of unity of the Universe." (Adventures of Ideas, p. 231)

There is an absolute generality which must be accepted as a final "given" beyond which we cannot go. Whitehead calls this generality the Category of the Ultimate. All metaphysical speculation must come to some ultimate irrationality beyond which there is no further rational explanation. It is only the philosophy of organism which supposedly succeeded in attaining the concept of such ultimate finality. In former metaphysical systems such concept was that of Substance; in Whitehead's philosophy it is the notion that the universe is One and Many. Thus he combines in this idea both monism and pluralism. The philosophy of organism is an attempt at analysis of how "in their natures, entities are disjunctively 'many' in process of passage into conjunctive unity". This process is based on the general creativity underlying nature - an urge toward both individuation and unification.

> "The Universe is many because it is wholly and completely to be analyzed into many final actualities - or in Cartesian language, into many res verae. The Universe is one, because of the universal immanence. There is thus a dualism in this contrast between the unity and multiplicity. Throughout the Universe there reigns the union of opposites which is the ground of dualism." (Ibid., p. 245)

The universe of Whitehead is a dynamic and

creative whole, resembling a living organism. The only way in which this "whole" differs from the Hegelian Absolute is its active creativity. His doctrine of internal relations contains this concept of activity which is a process of taking into relation and not merely a passive being in relation. The process is what he calls prehension. All entities are what they are because of this mutual prehension.

The final real things of which the universe is made up are actual entities or actual occasions. Tis concept and those of prehension and the Ontological Principle form the foundation of the philosophy of organism. What is the mature of this process which ensues in actual occasions? Is there any permanency in it, or is there some underlying thing which in Locke's terms might be called substance? In answering this question Whitehead begins with an assumption similar to that of Bergson. Intuition reveals to us Nature as a process of events extending from the infinitesmally small to the infinitesmally large. In such an interconnection of actual entities or nexus, everything experiences or prehends everything else. "Experience" here does not involve the element of consciousness as understood in human experience. Consequently Whitehead's "real" does not necessarily depend on empirical experience. There is a much closer relation of this view to the monodology

of Leibniz.

> "The event is what it is, by reason of the unification in itself of a multiplicity of relationships. The general scheme of these mutual relationships is an abstraction which presupposes each event as an independent entity, which it is not, and asks what remnant of these formative relationships is then left in the guise of external relationships." (Sc. and the M.W., p. 180)

His doctrine of prehensions is really a more fully elaborated doctrine of internal relations. An actual entity is a synthesis of its prehensions of all other actual entities; the nature of every actual entity is constituted by such nexus of prehensions. Hence, this new concept of reality is the outcome of Whitehead's strong adherance tothe theory of internal relations. When we speak of reality we usually imply sensible reality. That is, on the sense level, the sensible world is real. But, according to Whitehead, there are different levels of reality: in the world of science, for example, the real is not what it is in the world of common sense. Truth thus becomes relative to the level from which it is regarded. A color on the scientific level of reality is a completely different event than it is on the sensible level. The problems of epistemology are related to these two levels. The common sense level leads to the theory of external relations; the level of science leads to the theory of internal relations. It is the latter theory upon which Whitehead's philosophy is based.

The Ontological Principle completely discards the idea of any universal essences. The reason for the actual entities lies in the process of their actualization. What we call the laws of nature are not abstract universals imposed from outside, but descriptions of actual entities. The structure of actual entities is the way in which they synthesize prehensions in order to become themselves. This is also known as the Subjective Aim.

> "By this term 'aim' is meant the exclusion of the boundless wealth of alternative potentiality, and the inclusion of that definite factor of novelty which constitutes the selected way of entertaining those data in that process of unification." (Process and Reality)

The Realm of Possibility and the Eternal Objects

Two metaphysical concepts which are characteristic of the philosophy of organism are the "realm of actuality" and the "realm of possibility". The latter consists of "eternal objects"; that is, it consists of everything that can possibly be conceived. The eternal objects intrude or ingress into the world of actuality from the abstract world of possibility. It would appear that this world has some resemblance to Kant's "noumena". The difference, of course, is that nothing can be known about Kant's noumenal world. When the eternal objects ingress into the spatio-temporal flux they become concrete occurrences. The realm of actuality is therefore a selection from the infinite

number of eternal objects in the realm of possibility.

The world of eternal objects has a very close similarity to Plato's world of eternal forms. If we are to approach his concept from the viewpoint of Platonic forms, then we must admit that Whitehead failed to reconcile the element of change with the element of permanence. This problem of reconciliation was his original task. It is difficult to tell if his imaginative genius is actually presenting Plato's forms in a novel setting, or if the so-called "universal laws" in his philosophy become the eternal objects. One can only go by suppositions as to the intended meaning of the concept.

It has already been pointed out that Whitehead began his metaphysical speculation by criticizing knowledge which physical sciences give us. On the basis of his attitude toward scientific knowledge we may assume that his concept of eternal objects is related to the universal laws of science, which he conceives as being within the universal process, and not abstracted from it in the sense of Platonic forms. These laws are the ways in which science interprets the patterns followed by actual entities in the process of coming into being and perishing. What to us appears as a thing or an object is a coherent scheme of ingressions of eternal objects into the world of actuality.

"The process of experiencing is constituted by the

> reception of entities, whose being is antecedent to that process, into the complex fact which is that process itself. These antecedent entities, thus received as factors into the process of experiencing, are termed 'objects' for that experiential occasion." (Adventures of Ideas, p. 229)

It is possible for us to perceive the actual entities because there is an element of permanence in these patterns of ingression.

An eternal object then is something which had potentiality for being actualized. Every actual entity is an eternal object actualized; every actuality is also a limitation among possibilities. Whitehead calls this process of limitation a "decision". In this whole process of selectivity among possibilities there is the final or the highest principle of limitation. This principle is Whitehead's God. Since the primordial nature of God is the selectivity among possibilities to be actualized, He is therefore the principle of novelty as well as of limitation. In this connection it is difficult to follow Whitehead's idea of novelty, for if God is the final principle of selectivity from among the possibilities, all the latter must be within His scope, which implies that there can never be any element of novelty. His arguments from the Ontological principle are contradicted by introducing the concept of God as the final principle of limitation. There is a fair similarity between this concept of God and that of Leibniz.

According to Whitehead we proceed from the actuality of the world to the idea of a real Being who actualizes the possibilities. In Leibniz conception we proceed to the idea of a necessary Being who performs the same function.

> "God is the ultimate limitation, and his existence is the ultimate irrationality. For no reason can be given for just that limitation which it stands in his nature to impose." (Science and the Modern World, p. 257)

There is a Platonic element in this idea of God, in the sense that it appears to be the all embracing Form of the Good. In Plato, however, this form is outside the universe, whereas in Whitehead it is a connecting link between the realm of possibility and the realm of actuality. Accordingly there are two ways in which God brings eternal objects into relation with the world of actualities: He is the principle of transcendence on which the realm of possibility rests , and He is also the general urge or "appetition" by means of which eternal objects attain their realization.

By following this description of the activity of God one is led to the conclusion that the universe cannot be made up of mere possibilities, but must contain some elements of actuality. The question which one cannot help asking is: Why must there be actuality? Whitehead does not give us an adequate explanation, unless it be that experience is founded on actuality. If this be the case, then the assumption of the universe of possibilities is

superfluous and irrelevant to the universe of "prehending actual entities". The intervention of God's activity of limitation takes us no farther ahead in our quest for the nature of reality than do the abstracted concepts of science. From this point of view science is just as ultimately irrational as is this principle of concretion and limitation.

"Feelings" and Prehensions

> "The doctrine which I am maintaining is that the whole concept of materialism only applies to very abstract entities, the product of logical discernment. The concrete enduring entities are organisms, so that the plan of the whole influences the very characters of the various subordinate organisms which enter into it. In the case of an animal, the mental states enter into the plan of the total organism and thus modify the plans of the successive subordinate organisms until the ultimate smallest organisms such as electrons are reached." (Ibid., p. 115)

Scientific concepts came into being simply because science absracted only certain aspects of reality and neglected others. We have come to accept mistakenly scientific abstractions for realities. In this respect Whitehead's argument resembles that of Bergson, who claims that the world of science is merely a collection of symbolic representations which have been taken for realities. The abstraction of objects from their relations with other objects, and the abstraction of substances from their qualities, are two examples of the work of science. By introducing spatial and temporal differences into the objects

in the universe, science destroys the foundation of any concept of the universe as consisting of events interrelated and with reference to each other.

This indictment of the scientific picture of the universe is based on the idea that although science gives an account of the entities, it leaves out of account the prehending activity. That is to say that sciences omit the "real internal constitution" of things, This real internal constitution of a thing is what Whitehead calls its Subjective Aim or its "feeling for" its subjective aim. This feeling is perceived by a faculty which appears to have some resemblance to Bergson's Intuition.

In the philosophy of organism prehension means neither conscious awareness nor a mere mechanical link. It is a process by means of which evry entity appropriates the aspects of all other entities in the formation of its own nature, or in its self-realization. Each actual entity thus becomes a centre of experience. It is to this extent that the organismic view resembles the monodology of Leibniz. The nature of every actual entity is characterised by the way in which it "feels" other actual entities. Therefore every event is what it is because of the mutual interconnectedness of feelings or prehensions. On account of this interconnectedness an entity cannot be known in abstraction from its chain of connections within the universe.

Every actual entity or occasion is a "concrescence", a process of growing together of feelings of other entities into an entirely new unity. As already stated, in every such process of concrescence the Subjective Aim is an important factor. It is difficult to decide if Whitehead has completely divested this term of its psychological implications. If the Subjective Aim which tends toward "satisfaction" be understood from the psychological standpoint, then Whitehead's position is not far removed from Aristotelian teleology. It is essential that in this case the psychological terms such as this one should have an entirely new meaning, otherwise the philosophy of organism would have to return to the position of a bifurcated universe which it aims to unify. It would again necessitate the division of the universe into life and matter, which would be a contradiction of Whitehead's original position.

In considering these novel ways in which Whitehead employs old terms, it must be clearly understood that by "feeling" he does not imply the psychological factor of perception. Feeling is the taking into itself by every entity of all other entities, and objectifying themselves in them. Therefore it does not consist of physical prehensions only. When it is said that one entity objectifies itself in another, what is meant is that it adds something to the process of becoming of the other entity. In this

sense feeling and prehension are prior to consciousness and perception. In this manner the philosophy of organism gets rid of the subject-object relationship with its narrow view of knowledge and perception.

There is a process of selectivity in prehension. Each entity prehends only those features of other entities which are in harmony with its Subjective Aim. The subjective aim is an aim for a subjective form. (Here again we are reminded of the Aristotelian "forms"). It is the subjective form of the becoming entity which conditions the selectivity of that entity in the process of prehension, so that only certain aspects are taken into the new concrescence. All those prehensions which become part of the new concrescence are said to be "positive" prehensions. The "negative" prehensions are those which, being out of harmony with the subjective form of the entity, are not admitted into its concrescence. This process may be unterpreted from the viewpoint that even though there are eternal objects which do not ingress into the world of actuality, the mere fact that they are excluded from this world gives them a certain relationship to it. And since there is a relationship even of this negative form, there is a kind of prehension involved. Every object "negatively prehends" all the potential aspects in the realm of possibility that it might take into itself, but actually does not. This is the most

characteristic feature of the philosophy of organism. For example, green is an eternal object. It has no direct relationship to white snow; but the mere fact of its exclusion from the actual entity snow is in itself a form of relatedness.

Since all prehensions are forms of abstraction, there is thus a scale of abstractedness which runs from positive prehension where there is direct ingression of eternal objects, to the negative prehension where there is absolute exclusion. Consequently since a positive prehension is a feeling, a negative prehension is said to be "eliminate from feeling". But because a negative prehension has a considerable influence on the becoming of a concrescence, a description of an actual entity must involve the consideration of both positive and negative prehensions. However, when we thus consider an entity we lose hold of the process of concrescence. This is what happens in scientific analysis where only one-sided description of an entity is offered. To grasp the real "internal constitution"of an entity, it appears that Whitehead must rely on some form of Bergsonian intuition. What an actual entity is depends on how it prehends the universe. When such entity has fulfilled its subjective aim, it is said to have attained "satisfaction". This is a stage of actualized concrescence in which every element becomes clear because

of the completed whole. One is here reminded of Bergson's analysis of the intuitive process where reference is made to the enjoyment of a symphony. In Whitehead's terms a "concretion" is a process of organic synthesis in which Being and Becoming form part of the same event, and in which Being is always a potentiality for Becoming.

"The essence of an actuality consists solely in the fact that it is a prehending thing." Thus according to Whitehead a "thing" is a new way of feeling the rest of the universe; it is a becoming of a new prehension. Prehension and feeling, therefore, seem to refer to the same type of activity. In the final analysis essence means experience, and experience is some form of feeling. The subjectivity of every actual entity consists of its feeling for the objectivity of all other entities, where feeling does not imply awareness in the sense of human experience. This subject-object interconnectedness is a certain conformity of feelings; and this conformity explains the problem of causation.

In connection with his treatment of feelings Whitehead may be criticized on the ground that, knowing fully well that every philosophy is of necessity permeated with anthropomorphic elements, he insists on building a cosmology which could eventually take the appearance of something "given". Russell, for example, contends that

philosophy cannot be anything more than an expression of logical and mathematical correlations. The position of logical realism is that philosophy has no right to delve into the subjective nature of reality. If it does so, it is no longer serious philosophy, but shear mysticism. Nevertheless we should not dismiss subjective experience as irrelevant; it is as much a reality as the so-called objectivity of realism.

Whitehead's Cosmology

Whitehead, like Plato, approaches the problem of cosmology by analyzing the nature of order in the universe. This analysis leads him to the position that order can be explained only on the basis of some primordial principle of limitation. This is the origin of his notion of the "primordial nature of God". This principle is not only the sufficient reason for being, but it also solves the problem of causality. The principle of limitation operates upon primordial indetermination out of which emerge various types of order. In Platonic philosophy the various forms are also shown as emanating from the Form of forms, which is God. Plato's universal forms are Whitehead's eternal objects which ingress into the world of actual entities. The realm of eternal objects is also referred to as the Extensive Continuum consisting of generalities which

are really the possibilities of coming into being of any type of order.

> "Thus in the process of analyzing the character of nature in itself, we find that the emergence of organisms depends on a selective activity which is akin to purpose. The point is that the enduring organisms are now the outcome of evolution; and that, beyond these organisms, there is nothing else that endures. On the materialistic theory there is material - such as matter or electricity - which endures. On the organic theory, the only endurances are structures of activity, and the structures are evolved." (Science and the Modern World, p. 158)

According to Whitehead the main problem of metaphysics is to show the relationship between change and permanence, between order and disorder. The philosophy of organism merely restates the problem with which Plato had been concerned: Is it possible to find permanence in change, or is there a universe of stable forms behind the universe of actualities?

The view accepted by Whitehead is that entities are atomic. They come into being and perish, but do not change. The universe is thus a "perpetual perishing" where each entity has a sort of atomic duration. This is what he calls the "epochal theory of time". Every entity requires its own epoch or a period of time to become manifest or to become a realization. Through his concept of duration he incorporates the theories of physical sciences into his philosophy of organism. The chain of atomic occasions which in physics may be conceived as patterned vibrations, in his philosophy they are concrescences in the process of

becoming. The permanent elements in this process are the ingressing eternal objects and the forms or patterns of their ingression. It is through the recurrence of the form or the orderly repetition of ingressions of eternal objects that there is objectification.

> "Thus a duration is spatialized; and by 'spatialized' is meant that the duration is the field for the realized pattern constituting the character of the event. A duration, as the field of the pattern realized in the actualization of one of its contained events, is an epoch, i.e. an arrest. Endurance is the repetition of the pattern in successive events." (Ibid., p. 183)

The question which arises at this point is: Why should there be any objectification at all? Why must there be enduring objects, or actual entities, which, as they present themselves to our perceptive activity, show order and stability? There is a series of actual entities which Whitehead calls a strand, in which every succeeding member inherits a common form through the prehension of the preceding members. Such a nexus of actual entities gives us an enduring object - a strand. But the question as to why there should be such successive inheritance still remains unanswered. Of course, we do not expect Whitehead to resort completely to Aristotelian teleology or to Bergsonian elan. However, by what appears to be implied, we are obliged to read into this theory some teleological notion.

We must appreciate the language difficulties

with which Whitehead is confronted in his formulation of the concept of organism. Is it possible, for example, to speak of an electronic occasion in terms which thus far have been applied only to the functions of biological organisms and expect to be clearly understood? That is, one cannot help but ask oneself: Can it really be that Whitehead's process of abstraction has gone beyond any available symbolic form of expression which could be grasped in its entirety by his readers?

> "The notions of 'social order' and 'personal order' cannot be omitted in this preliminary sketch. A 'society', in the sense in which that term is here used, is a nexus with social order; and an 'enduring object', or 'enduring creature', is a society whose social order has taken the special form of 'personal order'." (Process and Reality, p. 50)

In the philosophy of organism the process of inheritance is contingent on the factor of relatedness. "Personal order" means that an enduring actual entity bears a definite character throughout the entire historic route of actual occasions. In physical actual entities or objects such personal order may consist of several strands, to which Whitehead refers as a complex nexus. And the only difference between organic bodies and physical objects is that in the former the nexūs is much more complex. Such highly complex nexus is then termed a "social order". A society which can be analyzed into individual strands is said to be a "corpuscular society".

The recurrence or repetition of actual entities involves the inheritance by the entity in question of the character of another entity. When this process of inheritance is interpreted on the basis of the Ontological Principle it is only another way of describing the process of objectification, in which one entity objectifies itself in another through "feeling".

> "The functioning of one actual entity in the self-creation of another actual entity is the 'objectification' of the former for the latter actual entity". (Ibid.,p.38)

The essence of the dynamic character of the philosophy of organism lies in the concept of creativity. In one of his shorter essays Whitehead states that "Process for its intelligibility involves the notion of a creative activity belonging to the very essence of each occasion." This creative activity is the process if ingression of potentialities into the world of actuality, and the transformation or concrescence involves self-enjoyment. Creativity entails decision from among different alternatives. The decision is accomplished through limitation, which in turn means the introduction of order. It may be argued that such order is imposed upon the realm of actual entities, since, according to the description of the principle of limitation there is some arbitrariness involved; but, according to Whitehead, the form, which is the expression of order, is simultaneous with the process of creativity.

This process of simultaneous coming into being of form and creativity is best exemplified in artistic creations.

> "Every actual occasion exhibits itself as a process: it is a becomingness. In so disclosing itself, it places itself as one among a multiplicity of other occasions, without which it could not be itself. It also defines itself as a particular individual achievement, focusing in its limited way an unbounded realm of eternal objects." (Sc. and the M. W., p. 253)

When an actual occasion has realized this "particular individual achievement", when it has become fully coherent, it is said to fave reached "one determinate integral satisfaction. This means that an addition of any further element would make it an entirely different occasion.

With respect to internal coherence the difference between idealism and the philosophy of organism consists in this, that idealism accepts reality as a system of thought consistent in itself; in other words, it is the consistency of ligic which underlies the consistency of reality. Whitehead does not begin with logic at all, but considers the becoming actuality self-consistent when it has achieved its definiteness. Thought does not enter in the picture at all, since the actuality does not come into being for a special purpose of being thought about and understood by the human mind. The conclusion at which one arrives from this argument is that Whitehead, in order to have remained fully self-consistent, should have spared himself the effort of creating his metaphysical system.

Philosophic systems do not come into being by spontaneous generation; they are the product of the thought activities on the part of those who create them. The problem really revolves about the following question: Does the apparent universal belong intrinsically to the universe, or is it an ordering of thought which in turn projects itself into the universe? This is the Kantian problem which Whitehead sets out to solve once and for all by approaching it in a novel way. And the way is through the concept of pluralism. Whereas for Idealism the only actual entity is the Absolute, for pluralism such as Whitehead's there is a reconciliation between the One and the Many. Idealist philosophies conceive the sufficient reason for Being, but this reason is not in the realm of actual entities, but in the logical systematization of thought. In the philosophy of organism the sufficient reason lies in Becoming, and the only way in which we can grasp this reason is not by logical analysis, but by some form of Bergsonian intuition.

Ethical and Religious Implications

> "Religion is the translation of general ideas into particular thoughts, particular emotions, and particular purposes; it is directed to the end of stretching individual interest beyond its self-defeating particularity." (Process and Reality, p. 23)

On first reading Process and Reality one is left wondering as to what role Whitehead's God plays in his

philosophy. We gradually realize, however, that Reason for him is more than simply a chance adaptation in the struggle for survival; it is an intrinsic factor in the ordering of Nature. This same ordering of Nature also necessitates religious experience, without which the emotional and the rational sides of our experience are in complete disharmony. But religion as he conceives it is a form of natural theology which prevents the development of both mysticism and scepticism.

Process is creativity which in turn is God's ordering of possibilities, so that they ingress into the world of concrescence with some relevance to each other. In this process of concrescence there are two phases to every concrete actuality: the physical and the conceptual or mental phase. This same duality applies also to God. In the universal process, however, there is a difference between God as an actuality and the becoming actual entities. Whereas in the actual entities the conceptual phase is last in the order of realization, in God the mental or conceptual phase is first. Whitehead apparently is not confronted with the question as to why there should be such juxtaposition between these two phases. No explanation is required, since the Primordial Nature of God is "given". This element of givenness is the only formal condition of order without which there would be only chaos. It is the only element

of stability in the universe. One of the characteristics of the primordial nature of God is appetition for actuality; this appetition leads to creativity. Whitehead speaks of creativity as being the consequent nature of God. The purposive nature of God, therefore, is to attain complete satisfaction through creativity.

By introducing the notion of purpose Whitehead in a way adopts Aristotle's teleology. There is some difference, however. For Aristotle the end was given and fixed; it was outside the thing and drawing the thing's development toward it. For Whitehead the end is contained in the thing; there is an inner urge in the thing - its Subjective Aim to become itself. This is what constitutes the thing's unity. It is for this reason that he calls it the "Principle of Concrescence". Since this principle exercises discrimination in selection, it determines the degree with which other entities shall be prehended into the concrescence of a particular thing. Such is Whitehead's notion of purpose.

God is not a static principle as conceived by Aristotle or by subsequent theologies. He is a principle which reconciles permanence with flux. The principle itself requires flux for its completion, while the world of actual entities requires permanence in the form of the primordial nature of God for its completion. God and the universe

"stand over against one another expressing the final metaphysical truth that appetitive vision and physical enjoyment have equal claim to priority in creation".

Concerning objective immortality, Whitehead states that the present is constantly vanishing, but it is immortal in the consequent nature of God, who "saves the world as it passes into the immediacy of His own life". The immediate present thus acquires a sense of objective immortality, and the immediate actuality takes on a value beyond itself. Value is the final aesthetic characterization of the world.

> "Thus value arises because there is now a real togetherness of the ideal aspects, as in thought, with the actual aspects, as in process of occurrence. Accordingly no value is to be ascribed to the underlying activity as divorced from the matter-of-fact events of the real world." (Science and the Modern World, p.)

Although actual entities come into being and perish, the method of their actualization appears in succeeding actualities.

> "In the philosophy of organism, it is not 'substance' which is permanent, but 'form'. Forms suffer changing relations; actual entities 'perpetually perish' subjectively, but are immortal objectively." (Process and Reality, p. 44)

This is "objective immortality" as implied in the Consequent Nature of God. It may be interpreted from the viewpoint of prehension as meaning that every actual entity leaves an imprint of its pattern of becoming on the whole of the

universe. This is the notion of order which Whitehead incorporates into his ethical and aesthetic concepts.

Critical Estimate

In this general survey of Whitehead's philosophy of organism only the main concepts have been reviewed. It has been shown that the universe as conceived by him consists of an active process in which every event prehends into itself all the relevant aspects of the universe. This process is regarded as living, and the only difference between life and matter is that of degree. By introducing the concept of generalized feeling, Whitehead shows us a new approach to life and matter - a new point of view which does not necessitate bifurcation. His main contention is that since the time of Descartes the notion of a divided universe has had a disastrous effect on all subsequent philosophy.

The mode of experience which in the case of man involves consciousness, is conceived as belonging to all living things; the events in the universe are occasions of experience. There are no two distinct phases, but an intricately interwoven process. Neither matter nor life can be understood in isolation, as presented to us by science. On this view there should really be no intrinsic difference between the biological and the physical sciences. Both deal with processes which differ in degree only - one

macrocosmic, and the other microcosmic.

> "The enormous success of the scientific abstractions, yielding on the one hand *matter* with its *simple location* in space and time, on the other hand mind, perceiving, suffering, reasoning, but not interfering, has foisted onto philosophy the task of accepting them as the most concrete rendering of fact." (Sc. and the M. W., p. 81)

Whitehead maintains that the original sin of philosophy was the conception of dualism of mind and matter, and he tries to break away from this conception. It may be argued, however, that the original sin is not bifurcation but anthropomorphism, from which no philosophy can ever escape. Bergson's thesis in this respect makes a logical appeal. We may not be able to escape entirely the anthropomorphic view of truth, but such truth may lie closer to some form of intuition than it does to reason. If we wish to find truth, we must lose ourselves in it and become one with it. Consciousness and reason keep us away from it.

Having argued away Cartesian bifurcation of thought and extension, Whitehead replaces it with one of his own, namely, that of essence and existence, form and concrescence, Being and Becoming. It appears almost impossible to break away from some form of dualism. There is a type of conflict in the idea of the Absolute itself. It is a conflict between the notion of the Absolute as outside the universe, and the Absolute as inclusive; and in turn this leads to a conflict between the notions of internal

and external relations. The Absolute as transcendent is opposed to the absolute as immanent.

The eternal objects of the realm of possibility are not entirely separate and distinct from the concrete actualities in flux, even though they are not informing this flux and do not come into concretion. Whitehead's concept of "negative prehensions" explains this relationship between the two realms. But if such is the case, that is, if there is some relationship, it is difficult to understand if he has placed his principle of limitation, which is God, entirely outside the "Whole", or merely outside the concrete world of flux. If outside the Whole, then, according to his own concept of the Whole, he has no logical right to do so. If outside the concrete world of flux, that is, in the realm of possibility, then he makes the mistake of considering this principle as an eternal object which he has already argued into concretion.

From our consideration of eternal objects we find that God is an idea which ingressed into the spatio-temporal world. And since in Whitehead's system ideas are concretions of the same order as the rest of the world of actuality, God therefore is a concretion. If so, He cannot be the principle of limita~~ta~~tion and concretion.

> "The primary situation disclosed in cognitive experience is'ego-object amid objects'. By this I mean that the primary fact is an impartial world transcending the 'here-now' which marks the 'ego-object', and transcending the 'now' which is the spatial world of simultaneous realization. It is a world also including the actuality of the past, and the limited potentiality of the future, together with the complete world of abstract potentiality, the realm of eternal objects, which transcends and finds exemplification in and comparison with, the actual course of realization. The ego-object, as consciousness here-now, is conscious of its experient essence as constituted by its internal relatedness to the world of realities, and to the world of ideas." (Science and the Modern World, p. 218)

Whitehead's view of perception becomes more complicated as he unfolds his arguments; and the reason for this is that despite his denial of bifurcation, he does introduce it in order to explain his concept of "simple location". Sense data are explained both as qualities of the actual entities and as sensations of the percipient. Thus the qualities are considered as actual entities which affect the percipient's immediate environment, which is the body. This results in feelings, called "sense-data". Then these sense-data are used in turn as symbols to objectify presentational immediacy. By introducing this double aspect of sense data, Whitehead is actually falling in line with Cartesian dualistic thinking.

By "objectification" he means the reproduction in a particular actual entity of the feelings of another entity. From his description of feelings one can gather

that they apply only to something transient and in the present immediacy of an actual entity. But by introducing the notion of objective immortality he assumes that the same feeling must come into being again. There is thus a contradiction in his views.

There is another category of feelings which Whitehead calls "Propositional" feelings. They are entities halfway between eternal objects and particular actual entities. They are classified under a special Category of Existence, and no reason is given for such special classification. They are a meeting ground between physical feeling and conceptual feeling. It appears, however, that this is the exact position of the actual entities.. According to Whitehead a proposition is not a pure potential, but a potentiality for fact, referring to certain definite actual entities as its ligical subjects. In Locke's words, "it is an idea determined to particular existences". Propositions which do not refer to some actual entities are not propositions at all.

> "Nothing is more impressive than the fact that as mathematics withdrew increasingly into the upper regions of ever greater extremes of abstract thought, it returned back to earth with a corresponding growth of importance for the analysis of concrete fact." (Ibid., p.48)

In mathematics as well as in logic if any proposition has a certain form, certain other forms of propositions are implied in it. As soon as we assign some definite value

to the variable the proposition then refers to some actual entities as logical subjects, and it presupposes also some systematic order in the actual world. This is what Whitehead calls an "indicative system".

> "Every proposition presupposes some general nexus with an indicative rational system. This nexus includes its locus of judging subjects and also its logical subjects. This presupposition is part of the proposition, and the proposition cannot be entertained by any subject for which the presupposition is not valid." (Process and Reality, p. 297)

There is a distinction between proposition and judgment. Whitehead's criticism of the preceding philosophical systems consists in the fact that, as he claims, they have treated propositions as if they were true or false logical judgments. But propositions cannot be judged as true or false; they are merely "lures for feeling", or possibilities envisaged by the prehending subject as having relevance for realization. This also means that no consciousness is necessarily involved in propositional feelings. It has already been shown that Whitehead assimilates consciousness to other events of the universe; it is just another case of prehension.

Certain metaphysical propositions may be true, but following Whitehead's reasoning we can say that their truth or falsehood depends on our cosmic epoch. All propositions of mathematics are shown to be metaphysical. If so, they should be true for all possible cosmic epochs. Is it

impossible to envisage a cosmic epoch in which such propositions may not apply? Thus it may be asked: Is it at all possible to formulate a metaphysical proposition? In mathematical propositions such as 1 + 1 = 2, or in logical propositions such as "man is mortal", we are

> "stating a truth concerning the wide societies of entities amid which our lives are placed. It is a truth concerning this cosmos, but not a metaphysical truth." (Process and Reality, p. 302)

Such is Whitehead's own admission. It may be added that we have no logical right to speak of propositions which do not pertain to our cosmos as true or false. If such propositions can be construed they are mere nonsense.

Something may be said with regard to generalization as it appears in the philosophy of organism. During every process of generalization there is always the use of present experience. How does Whitehead define metaphysical generalization? Having first criticized Descartes for the sin of starting his metaphysical speculation from original clear and distinct ideas, he states that philosophic generalization is

> "the utilization of specific notions applying to a restricted group of facts, for the divination of the generic notions which apply to all facts." (Ibid., p.8)

What else are the specific notions but original clear and distinct ideas?

Having arrived at a scheme of general principles, metaphysical speculation must then see if this scheme

explains our experience. If it does, it becomes "categorical". The philosophy of organism is just such categorical scheme. Whitehead claims that the general scheme with which he begins his metaphysics is the outcome of his generalizations which are simply enlarged and discussed in the subsequent elaboration. Therefore the method is not deductive. Nevertheless it may be argued that the method is that of mathematics, and that the categories are postulates from which he deduces his generalizations. It appears that these postulates in so far as Whitehead is concerned are nothing else but "clear and distinct ideas".

Whitehead claims that if induction is to be justfied it is necessary to have a metaphysic which would show the universe as systematic and divisible into partial systems with varying degrees of mutual relevance. Since both induction and measurement are the foundation of science, he feels justified in developing his metaphysical system. His claim rests upon the argument that since there is observable and measurable regularity in science, there must be similar regularity in nature. This, of course, is an assumption which in no way proves that the universe is not a chaos. The age old problem as to whether the world is a reflection of the mental order, or whether the mind is a reflection of some universal order, has not been solved. Whitehead is making the same type of assumption which had

been challenged by Kant, namely, that since there is knowledge in the form of order and relatedness, there must be a system of order and relatedness in nature.

He tries to avoid the dualistic impasse of Kant by introducing into his philosophy the Ontological Principle according to which the "laws of nature" constitute an order in the actual entities. These laws are intrinsic in the constitution of the actual entities. They are merely descriptions of dominant characters of societies in the realm of actuality. A set of such dominant characters forms a cosmic epoch which comes into being and then decays, being gradually replaced by some other cosmic epoch.

> "Here the phrase 'cosmic epoch' is used to mean that widest society of actual entities whose immediate relevance to ourselves is traceable. This epoch is characterized by electronic and protonic actual entities, and by yet more ultimate actual entities which can be dimly discerned in the quanta of energy." (Ibid., p. 139)

Thus our epoch is characterized by macrocosmic solar systems and by microcosmic atomic events.

A society is a nexus of entities enjoying a more or less independent existence. The object of the philosophy of organism is to explain the unified ordering in their existence. The human body which is an example of a society has attained a method of ordering through the highly coordinated entity - the brain. This suggests the idea that in the human society the most democratic form of ordering or

control would be the one in which, unlike in the body, there is least amount of centralization. The bodies of lowest organisms would follow this type of ordering.

The only difference between organic and inorganic societies is that in the former there is a beginning of conceptual feeling or conceptual prehension which enables the organic body to prehend its environment in constantly changing and novel ways. They are not moulded in set forms or tied to general patterns in the same way as are the inorganic societies. This conception explains adaptation and the evolutionary process. However, the universal urge to creativity is present in differing amounts in both types of society.

> "It is the task of philosophic speculation to conceive the happenings of the universe so as to render understandable the outlook of physical science and to combine this outlook with these direct persuasions the basic facts upon which epistemology must build. The weakness of the epistemology of the eighteenth and nineteenth centuries was that it based itself purely upon a narrow formulation of sense-perception." (Science and the Modern World, p.)

Whitehead's philosophy is an opposition to both the New Realism and the philosophy of Logical Analysis.. Logical analysts, positivists as well as empiricists, refuse to deal with existences in their analytic method. Russell, for example, argues that metaphysics should not deal with existence at all. Thus metaphysics becomes a speculation about the possible, and should not be considered as a

philosophic method. But Whitehead, on the other hand, insists on existence being a fundamental notion in philosophy. In the process of developing his conception of existence he deviates from his belief that pure mathematics, for example, are a priori, and claims that the equations of pure mathematics cannot come into being without there being some form of actual existence. From his viewpoint, therefore, if we say that metaphysics deals with the world of mere possibility, we are not saying anything at all. In metaphysics it must be assumed that "something given exists".

From the viewpoint of logical analysis most of Whitehead's propositions, being of metaphysical nature, become emptied of meaningfulness. For example, he states that "process is the ultimate". One has a perfectly logical right to make this into a statement such as: The ultimate is process. This proposition is without meaning, for by asking the question: What is process? the only answer that one reaches at the conclusion of a long metaphysical speculation is that process is the ultimate. Being a purely analytic proposition, it has given us no new information. If A is B, what is B? And the answer is that B is A. It must be remembered, however, that the two methods are not dealing with this problem on the same ground.

For Whitehead logical positivism is extreme irrationalism; it does not search for reasons, for it does not extend to anything beyond mere observation. What then should be the aim of philosophy? In answer to this question he says: "Thus one aim of philosophy is to challenge the half-truths constituting the scientific first principles." It may be pointed out that the hypotheses of science which he calls half-truths are constantly challenged without involving any philosophic generalities. It is the scientific method of testing and experimentation which constitute the constant challenge to "half-truths". This is one of Dewey's arguments in opposition to Whitehead's metaphysics.

In concluding this survey it may be stated that the tremendous contribution made by Whitehead to modern philosophic thinking can be compared only to those which Locke, Descartes and Kant made to the general thought of their respective periods. As stated in the introductory remarks, our age is perhaps not quite ready to appreciate the full significance of his concepts, especially those which are entirely novel. What are these main concepts? First of all he replaced the concept of "substance" with the concept of "event". This is the foundation of the whole idea of Process. Secondly, there is his concept of

"concrescence" or growth. This notion restores to the universe the "soul" which materialism had driven out. Finally, he conceived the notion of the interaction and blending of the physical and the mental, so that the universe becomes one creative Whole.

PRAGMATISM AND THE INSRUMENTAL METHOD OF DEWEY

American Pragmatism - Historical Factors

In order to understand Dewey's contributions to modern philosophic thinking and to our cultural life in general, it is necessary to review the historical developments which culminated in his instrumentalist approach. We cannot underestimate the tremendous influence that his philosophy has had upon all phases of our cultural life. Philosophy according to Dewey is an intrinsic part of the culture which prevails during a particular period. Therefore it can be neither the whole cause, nor the whole effect of that culture. Like all other phases of modern culture, philosophy should be an element of interaction with all these phases.

Ours is a constantly changing culture. What then should be the function of philosophy under such circumstances? Should it be regarded as the highest possible attainment of the mind, or should it be accepted as an expression of the material foundations of life? Or should philosophy be an intelligent integration of our inherent tendencies to look backward for guidance and forward for inspiration in the solution of our everyday problems?

Philosophy interacts not only with the existing cultural elements, but also with its own past history, As Dewey explains it, philosophy carries out of the past its own deadening weight. His object, especially after

1925, was to examine critically this dead material which comes to us from the ancient philosophies in variously modified forms, and continually clutters up our newer modes of thinking. We should analyze the philosophies of the past ages on the basis of their relevance to the general culture prevailing at the time. Dewey's thesis aims at pointing out that although Greek philosophy, for example, had a direct bearing on the interaction of the elements in Greek culture, its constant reappearance in varied forms in our Western civilization has had a retarding effect on our philosophic intelligence.

The pragmatic mode of thinking arose in a way of protest against Monistic Idealism which dominated philosophical thinking at the end of the nineteenth and at the beginning of the present century. The common factor in various schools of idealism was the age old search for an active mind, which in some way imposes final harmony upon the universe. It is true that Whitehead, for example, has completely departed from the ancient and classical transcendentalism, but even with him the influence of idealism shows itself in the interpretation of the scientific order in things. This interpretation tends to point to the objectivity of the order. The objectivity is no longer the Absolute in the sense of the classic schools of Idealism; it has become humanized and made more this-worldly.

There were a number of important steps which led to the development of pragmatism, finally appearing in the instrumentalism of Dewey. There was first of all the influence of the rapidly growing sciences of biology, genetics and psychology. The new discoveries in these fields caused the empiricists to turn away from the notion of what we ought to think and believe to the interest in how we think and why we believe as we do. They refused to concern themselves with any preconceived validity of our beliefs. Thus we can follow this early formulation of the pragmatic viewpoint in C.S.Peirce. He proposed the idea that philosophy should take on a practical aspect. Validity of knowledge may be arrived at by the use of the scientific method; and truth is the outcome of the universal agreement among those who have found new knowledge.

The discoveries in biological sciences together with new scientific principles and techniques introduced into practical problems of our industrial life were reflected in the growth of the new conception of mind as neither a passive recipient, nor an active creator, but a product of an interactive process. This conception showed itself in a growing tendency to analyze things-in-relation and not merely synthesize individual phenomena. A tremendous impetus to this new way of philosophic thinking was given by William James when he proposed to make psychology a natural

science. The notion that intelligence and morals could be treated as subjects for experimental investigation had a striking effect on Dewey. It resulted in the basic notion that thought could be considered as activity, and that ideas are instrumental. The meaning of pragmatism as expounded by Peirce involves the modification of existence by the application of concepts and ideas to the solution of problems and thus changing the situations presented to us in experience. Dewey's formulation of the theory is based mainly on the idea that thought is an instrument by means of which man adapts himself to the environment.

The most characteristic feature of pragmatism is the "recognition of an inseparable connection between rational cognition and rational purpose". There can be only one meaning of a word or an idea, and that is the meaning conceived in terms of the bearing the word or the idea has upon human conduct and human life as a whole.

> "It is true that the theory according to Peirce's conception implies essentially a certain relation to action, to human conduct. But the role of action is that of an intermediary. In order to be able to attribute a meaning to concepts, one must be able to apply them to existence. Now it is by means of action that this application is made possible. And the modification of existence which results from this application constitutes the true meaning of concepts." (Dewey: Development of American Pragmatism)

The rudimentary concepts of pragmatism which were introduced by Peirce, had been extended by James. He claimed

that every idea which we have of an object is in the final analysis an idea of the possible effects the object can have on us. The effective meaning of an idea always consists of some particular consequences in our practical experience. He had reached this conclusion as a result of his psychological consideration of perception. He criticized the atomistic theory of perception which had come down to us from the early empiricists such as Locke and Hume. This theory inevitably leads to a solipsist impasse which Kant tried to avoid by endowing mind with a priori categories. James argued that experience is not composed of distinct and separate sensations which, according to the atomists are connected by the intervention of the mind. Experience is a continuous process, and the relations are as much parts of experience as the things related. The mental activity in perception is primarily analytic, not synthetic.

Dewey's early philosophic enterprise consisted in breaking down Kantian dualism between judgments of fact and judgments of value. He finally reached the conclusion that ideas or universals (as they appear in the philosophy of Kant), are an intrinsic part of experience; they are functional plans in all human experience. This viewpoint places the emphasis on the interconnection and continuity between scientific and ethical judgments. The so-called

universal judgments cannot function apart from the plans, habits and tendencies of the one who judges.

> "I cannot help feeling that an adequate analysis of actuality would exhibit the world of fact and the world of ideas as two correspondent objective statements of the active process itself, - correspondent because each has a work to do, in the doing of which it needs to be helped by the other." (From a letter to William James)

Nature consists neither of free agents nor of lifeless masses; it is composed of processes and movement in constant interactivity. Mind is only one of these interacting processes; it must therefore be studied from the viewpoint of what it accomplishes in its interaction. Consequently Dewey conceives mind as as instrument which redirects activities according to the anticipation of their consequences. In his own words:

> "Pragmatism presents itself as an extension of historical empiricism with this fundamental difference, that it does not insist upon antecedent phenomena but upon consequent phenomena; not upon the precedents but upon the possibilities of action, and this change in point of view is almost revolutionary in its consequences." (Dewey: Development of American Pragmatism)

Reconstruction in Philosophy

Dewey's thinking which had been gradually shaping itself and developing a distinct instrumentalist character under the influence mainly of Peirce and James found its clearest expression in his Reconstruction in Philosophy. We may now review the fundamental postulates with which he proposes to undertake the task of reconstruction. The basic

postulate is that all problems of philosophy grow out of social interaction; these problems undergo modification and change with the continuous changes in human life. The prevalence of strife and conflict, and the sense of insecurity arising therefrom, lead to uncertainty and pessimism. The circumstances of the day are bound to have their influence on philosophic thought. The tendency therefore is to formulate systems which either have no bearing at all on the affairs of the day, or which attempt to establish a philosophic refuge of certainty and security.

When Dewey criticizes the systems of the past, he does so not so much on the ground of their irrelevancy to the problems of their age, as on the ground that they are of no concrete value to the solution of our own problems. In spite of the fact that philosophic thinking has been undergoing change and modification, it has not been a change which would lead to a philosophy able to deal with the problems of the day. We must have a philosophy which will do for our age and our culture what some of the systems of the past have done for their respective cultures.

We can see from this basic postulate that Dewey's philosophy does not for one moment leave the common everyday world. Many philosophers before had begun with the world of everyday experience, but in most cases they ended up with a world of their own making, a world to which they

were led by their own arguments. Dewey's arguments, however, keep us in close touch with the empirical world; his is truly the philosophy of experience, for, as he explains, there can be only one experience: that of the world experienced. Experience gives rise to philosophic arguments about the world, but no arguments can give rise to the world experienced, however soundly they may be founded on logic. The most theoretical of scientists, in the final analysis, resorts not to argumentation in proving his point, but to experimentation which is a highly advanced technique in experience. The attitude of those schools of philosophy today which still maintain that theory is above practice, and that philosophy is a privileged method of discovering truth by pure argument - such attitude is an indication of the survival of the ancient and medieval beliefs and superstitions.

Why should theory in philosophy be more privileged than theory in science? The test by experience has proved to be the only workable kind of argument in science, why should it not be applied in philosophy also? Are philosophers specially endowed with some supra-natural powers permitting them to attain knowledge of the Absolute in some supra-empirical way? To make philosophy an active instrument in the solution of real problems of life, philosophers must recognize the fact that they are of this world. The

reason why philosophy is so slow in becoming a useful tool in the hands of man is not entirely due to the stubborn attitude of individual philosophers. It is mainly because of our culture being so deeply rooted in the traditions of the past. The individual philosophers fail to project their views into the future, for these views are but a residue of the past. Our scientific culture is constantly held back in its progress by heavy chains of conservative dogma and tradition. And the classic philosophies are the systematized forms of these dogma and traditions. Therefore philosophy should be held responsible at least for still clinging to methods of thinking which science has long ago demonstrated to have no bearing on life. Philosophy has been evading the real issues under pretense that it had to deal with a greater reality - a reality not of this world. Dewey's object is to rid philosophy of this pretense.

Intelligence with Dewey takes on a very practical aspect. It is no longer a special faculty to be used in the attainment of truth; it is no longer considered as something ready-made and "given". It bears a generalized meaning of a method of "observation, experiment and reflective reasoning which have in a very short time revolutionized the physical and, to a considerable degree, the physiological conditions of life". Having proved a very successful method in science, intelligence should be more

fully introduced in the solution of all problems of human endeavor.

Since the ancient and classical philosophies are no longer applicable in our scientific age, since they have no functional value in our life, we must carry out a reconstruction in all our concepts which have been handed down to us by these philosophies. It is essential, for example, that we reconstruct our theory of knowledge; it can no longer be considered apart from our activity. The theory of the so-called empirical knowledge was based on preconceptions which did not arise from any activity of the type that goes on in scientific inquiry.

Philosophy is a human affair; it arises out of the needs and activities of human beings. After all, was it not the pressure of practical needs and desires which prompted the earliest forms of speculation? With respect to classical philosophies, they all have one thing in common: they all arrived at something which was fixed, eternal and out of time. This eternal "something" was all-pervasive. Such philosophical thinking had arisen out of the natural sciences of the day; the latter had assumed certain fixed and immutable entities, such as matter or atoms, which supposedly were behind the changing reality. The position of modern science is different, however.

"In science the order of fixities has already passed

> irretrievably into an order of connections in process." (Reconstruction in Philosophy, Intro. p. xl)

There is therefore a resulting tendency in philosophical systems (Whitehead's, for instance), to think in terms of process.

The classical philosophies, then, searched for absolute universality. Now it is commonly recognized that there is "such a thing as relative - that is relational - universality". This relative universality as it appears in scientific inquiry is not something given by nature or fixed by God; it is a system of events taken out of their isolation. Whereas classical philosophy as such was a search for the immutable and the eternal, science is simply a steady process in knowledge. With respect to philosophical thinking in general there is very little difference between a scientific hypothesis and a philosophic speculation. The difference lies in the eventual applicability of the two. A hypothesis is an attempt at seeing the world in a new way. With its first appearance it is impossible to tell if it will fall under the care of science or of philosophy.

> "It is a case of 'science' if and when its field of application is so specific, so limited, that passage into it is comparatively direct - in spite of the emotional uproar attending its appearance - as, for example, in the case of Darwin's theory. It is designated 'philosophy' when its area of application is so comprehensive that it is not possible for it to pass directly into formulations of such form and content as to be

> serviceable in immediate conduct of specific inquiry." (Ibid. Intro. p. xviii)

Changing Conceptions

In analyzing the changing conceptions of philosophy Dewey takes memory as the principal factor in human experience. It is memory and the process of association which put man above other animals. They enable him to make use of symbols and thus record his experiences. Without this possibility of communication and transmission of experiences, man would not be a social being. It is quite evident that memory has a functional value in man's adaptation to his environment.

> "The past is recalled not because of itself, but because of what it adds to the present." (Ibid., p. 2)

In primitive man memory functioned as "vicarious experience" without involving dangers and troubles of actual experience. Past experiences in the form of memory add interest and enjoyment to the practical endeavors or to the leisure of the moment. Consequently such memory experiences in primitive man led to imagination and fancy. Those memories which carried the greatest emotional value for the solution of the present problem led to the origin of myths and folk tales. The far-fetched and other-worldly content of these myths is the result of both the intensity of emotion and the inaccuracy of memory in primitive man. But

these were the elements which in a highly dramatized and imaginative form gave him comfort, satisfaction and a sense of security as he went out to face the problems of the day.

It was out of such practical circumstances that philosophy arose. Thus Dewey advises us to look for the origins of philosophy in the factors of memory and drama, based on active imagination. The consciousness of man is predominantly filled with emotional drives rather than with intellectual pursuits. This was primarily so before man had undergone a strict form of training in the hands of social disciplines. With the gradual process of socialization he began to check his emotional fancies by comparing them with facts. Nevertheless the undisciplined part of human nature still predominates. For the most part man still

> "lives in a world of dreams, rather than of facts, and a world of dreams that is organized about desires whose success and frustration form its stuff." (Ibid., p. 7)

The experiences out of which philosophy finally emerged are irrelevant to modern science. They are highly emotional, symbolic and figurative, and before they can be considered as philosophy they must pass through two stages of generalization. There is first the consolidation of myths and legends - the living over of original experiences in dramatization. This is the process of social generalization whereby the life of the individual becomes coordinated with the life of the group. We eventually find certain

traditional norms. By a process of education individuals are inducted into these cults, doctrines and traditions.

With the development of political organization the cultural and traditional doctrines become more fully consolidated. From the viewpoint of greater political power and prestige, it was highly expedient to have the maximum consolidation of belief. The social influence on the organization of doctrines and cults led to a process of systematization of philosophy. And the motive for this logical systematization was "the need of reconciling the moral rules and ideals embodied in the traditional code with the matter-of-fact positivistic knowledge which gradually grows up."

The common beliefs of the community persist for a long time side by side with the primitive scientific knowledge. There arise many interconnecting links between the two. At the same time there develops a distinction between two types of activity based on class distinctions. All mental preoccupations, such as matters of religion and philosophy, become the special fields of activity for the ruling classes; the activities related to the matter of fact knowledge belong to the artisan class. We see this condition exemplified in Greece at the time of Plato and Aristotle. The man who possessed practical everyday knowledge lacked prestige. Only with the Sophists did philosophy

acquire a more popular character.

The separation of "true knowledge" from "matter-of-fact" knowledge introduced the greatest amount of confusion into subsequent philosophical thinking. In this respect Dewey's main contention is that the empirical philosophers from Locke through Hume to Kant have not deviated to any great extent from the Greek conception of mind as a thing that knows or is capable of knowing. He refers to this conception as "the spectator theory" of knowledge. The mind is regarded as an outside observer; it does not interact with the object of its observation. If there is any activity on the part of the mind, it in no way affects the thing known, for mind is "pure activity", completely divorced from the activity of the degraded matter of fact world. This notion led to a complete separation between "absolute" knowledge and matter of fact knowledge; the activity of the mind was regarded as consisting solely of theoretical argumentation and logical reasoning. It was conceived that through this form of activity the mind was capable of arriving at absolute certainty and truth, and thus finally unite with the immutable Being full of goodness and beauty and devoid of all earthly evils.

It was the problem of moral values that kept philosophy and matter-of-fact practical knowledge in constant separation. The latter type of knowledge was considered as

definitely inferior to the knowledge of ultimate ends and purposes. Nevertheless the growth of practical or scientific knowledge was bound to have its influence on the accepted cultural and traditional beliefs of the day. "Tradition was noble in aim and scope, but uncertain in foundation."

The influence of the Socratic school and that of the Sophists was of such nature that metaphysics was eventually accepted as a coordinator of higher moral values, taking place of custom. This was a natural tendency in reconciling the two products of mental activity: empirical knowledge on the one hand, and the search for a unifying principle or Being on the other. This tendency had persisted until very recent times. At least some of the structure of the past had to be saved at all cost before the onslaught of the present - the beliefs of the past had to be justified in the form of metaphysics. In classical times such justifications used to appear in the form of new schools of philosophy. In Greece, for example, the philosophies of Plato and Aristotle were justifications of Greek religious, cultural and social life. In Germany the philosophy of Hegel was a justification of German political institutions; and to follow Dewey's argument to its logical conclusion, in America pragmatism ought to be regarded as just such justification of the "American way of life".

Another way in which philosophy has been preser-

ving old customs and traditions has been in the form of logic. If old doctrines can no longer be accepted as true on the basis of social authority, and if their truth cannot be tested by means of empirical methods, they must be proven true by means of logical argument. The result of this tendency in philosophy is quite obvious: the aim on the part of most schools to demonstrate certainty and ultimate truth. Dewey refers to these pretensions of philosophy as being overambitious. Nevertheless all classical philosophies drew a sharp line of demarkation between two realms of existence. The metaphysical realm consisted of all those elements which arose from the original religious, traditional and social life of the people. It became "the world of highest and ultimate reality". On the other hand there was the empirical and phenomenal world of everyday experience. This was the world of science. Philosophy had claimed the possession of a higher faculty of knowledge than that of science. Science was prepared to give us only probabilities, but philosophy was certain that it could disclose the nature of ultimate truth.

Greek mathematicians had shown the philosophers how the mind knows the Absolute; the immutable Being or the universal Form becomes as true and certain as the fact that the angles of an equilateral triangle are equal. The simplicity of the argument is very striking, and we should not

wonder that it originated with the Greeks, for simplicity in everything was their outstanding characteristic. For them real knowledge was not of changing world of Becoming, but of the permanent world of Being. The only way to such knowledge was the way of mathematics and logic - the way of pure Reason.

The earliest beginnings of modern science were founded more on Greek logical and mathematical thinking than on experimentation. The latter was only a supplementary procedure, and besides, it was employed only by the artisans and those who, because of their class position, had to deal only with brute matter. The scientists who almost wholly liberated themselves from the philosophical tenets were the ones who descended from these early artisans. And it was during the hectic times of the general revolt against authoritarianism that science strode out freely and independently into the field of experimentation - the only positive road to knowledge. It was the trend toward individualism that helped science in its rapid progress. In philosophy this same trend became evident in the growth of rationalism and empiricism, both extremely antagonistic to the authoritarian dogma.

Dewey's account of classical philosophy rests mainly on his view

"of the origin of philosophy out of the background

> of authoritative tradition; a tradition originally dictated by man's imagination working under the influence of love and hate and in the interest of emotional excitement and satisfaction." (Reconstruction in Philosophy, p. 24)

Thus he explains the origin of philosophy not as purely intellectual, but social and emotional. His view of the historic development of classical philosophy aims at producing a contrast between philosophy and the scientific method, at showing the unquestionable superiority of science, and at developing new concepts of the function of philosophy in harmony with our scientific age. Philosophy should aim at clarifying men's ideas as to social and moral strife of their own day.

The idea which Dewey brings forward in order to explain the existing state of philosophic thinking is that scientific inquiry has had a tremendous influence on all phases of human activity. Science produced a general upheaval in our concepts, our beliefs, our political life and our morals. Because of the very rapid development of science the old schools of philosophy took over the jurisdiction in the field of morals and ideals of conduct. This division of the scientific world from the ideal world forms the basis of our present day problems.

As the outcome of this division there is a steady stream of criticism coming from those who are on the "spiritual" side against the inroads made by science into the

fields of human activity over which, according to the critics, it must not claim any jurisdiction. It is commonly contended by these critics that the general condition of disorder and uncertainty in the sphere of human affairs are the result of science dealing with everything human in the same way as it deals with the world of inorganic matter. The real issue, however, is that science has not made any systematic attempt as yet to deal with human conduct by using a truly experimental method. This factor, according to Dewey, should claim our utmost consideration in any reconstruction in philosophy.

Science and philosophy had begun from the same point in their search of knowledge, beauty and truth. But the farther they progressed, the farther apart they moved. The object of their search in the final analysis may be considered as still the same, but the ways they follow are quite divergent. Why are their ways divergent? asks Dewey. Like in the days of the Greek philosophers, when science and philosophy were born of the single effort, so today they both aim at grasping the same reality which the Greeks thought they had grasped. The divergence between the two methods is so pronounced because what philosophy considers as real is not the real of science. For philosophy it is still something permanent and immutable; for science it is something which is experienced and modified through expe-

rience. Thus the new science rejected the old philosophic concept of the ultimate reality. This was a crisis that philosophy could not bear. Science had nothing to say about the mind or the soul. Even Descartes' compromise between the ancient concept of the soul and the new trend toward empiricism could not produce any lasting harmony between science and philosophy.

It is most logical for Dewey to regard Francis Bacon as "the real founder of modern thought". Bacon's precept "Knowledge is power" may be accepted as the pragmatic criterion. There is no doubt that his criticism of the so-called learning of his day must have tremendously influenced all subsequent thinking. He had a clear idea of the function of knowledge, and did not hesitate to expose the contemporary pseudo-knowledge. His critical attitude was steadily bent on showing that the true aim of knowledge should be the control of the forces of nature. Of course, he was in no position to be able to elaborate on the methods of such knowledge; he lived before his time.

Bacon's criticism was directed not only against the cobwebbed scholasticism of the Middle Ages, but also indirectly against Aristotelianism which was the foundation of scholastic methods. The hair-splitting logic had conquered men's minds, but did nothing to conquer nature. Logical

demonstration had not discovered any new facts or new truths. These must be looked for within nature itself. Being an ultra-conservative method, the logical web-spinning of the day hampered all progress. It promoted the uncritical acceptance of classical dogma. On the other hand, the method of critical scrutiny of nature always looks to the future. Therefore Bacon had advised complete break with any logic which strives to demonstrate a priori truths.

> "When William James called Pragmatism a New Name for an Old Way of thinking, I do not know that he was thinking expressly of Francis Bacon, but so far as concerns the spirit and atmosphere of the pursuit of knowledge, Bacon may be taken as the prophet of a pragmatic conception of knowledge." (Ibid., p. 38)

The industrial and social changes which were taking place in Bacon's time had distinct psychological influence on the old mental habits and attitudes. The result was a rapid change in thought and the development of new attitudes and new outlooks.

In analyzing the methods of science Dewey pays constant attention not to what scientists think, but to the consequences of what they do. In order to evaluate ideas it is necessary first to examine the positive results of these ideas. This was the original pragmatic aim. For example, many philosophical concepts such as the distinction between primary and secondary qualities have no valid bearing upon science, for they do not perform any scientific

work, or have any positive results in science. The controversy between philosophy and science on the question of primary and secondary qualities, therefore, has no pragmatic consequence whatsoever.

Nevertheless from the time of the Greeks philosophy has been constantly influencing the development of scientific theories. One of the philosophic concepts which is still exerting influence upon science, is that of "substance". The demand on the part of philosophy for a postulate of something permanent, of some immutable matter behind change, led science to evolve such theories as that of ether, atom, etc. The craving for something permanent and immutable had its origin in Greek philosophy. Modern science, of course, does not concern itself with any permanent reality, but the Greek influence still persists in certain constructs, which, although they do not exactly offer any idea of finality and absolutism, serve the purpose of classical "form", "substance", or more recent "matter" with its atomic structure.

The underlying factor in scientific knowledge is control of natural phenomena. Thus far this control has been applied only to technical and economic changes; it has not yet been extended to include all phases of human life. The extension of scientific method to purely human and social factors is the task for a reconstructed philosophy.

Various political and social events which followed in the wake of industrial revolution were at least an indication of the general direction of social change which must be continued in a planned manner in the age of science. The growth of political emancipation from the bondage of custom and tradition is a clear example of the direction of this change. Simultaneously there also began to appear new ideas concerning the origin and functions of the state. The old theories could no longer give satisfactory explanation for the existence of the state.

With the rapid growth of individualism, both political and moral, there was the accompanying disintegration of established institutions. In religion the same trend of individualism manifested itself in the idea of the sacredness of individual conscience. In turn this also had a definite influence on political thought. The general attitude led to initiative and independence in all fields,

> "a growing belief in the power of individual minds, guided by methods of observation, experiment and reflection, to attain the truths needed for the guidance of life." (Ibid., p. 48)

As a result of these varied changes there developed a new concept of truth. It was no longer regarded as being of some supra-natural or metaphysical origin, but that its origin is in experience, and its value lies in its consequences. There also developed a new concept of intelli-

gence itself. Thus Dewey points out that all these tendencies have been indicative of the need for a reconstructed and systematized philosophy which

> "will regard intelligence not as the original shaper and final cause of things, but as the purposeful and energetic reshaper of those phases of nature and life that obstruct social well-being." (Ibid., p. 51)

Science and Philosophy

Dewey speaks of philosophy as a generalization of ways of response to the problems of life as they present themselves to man. The progress of science with its new techniques and new attitudes required a reorientation in the method in which this progress could be generalized; that is, it required a new philosophic disposition.

To begin with, the concepts of modern science are in sharp contrast with those of the ancients.

> "The world of modern science is an open world, a world varying indefinitely without the possibility of assignable limit in its internal make-up, a world stretching beyond any assignable bounds eternally." (Ibid., p. 54)

This is not the world in which, for example, ancient Greeks used to live. Theirs was a world in which changes took place against a background of something permanent which was considered higher in quality than the apparent flux.

> "The inferior was that in which man could foresee and in which he had instruments and arts by which he might expect a reasonable degree of control. The superior was that of occurrences so uncontrollable that they testified to the presence and operation of powers beyond the scope of everyday and mundane things." (Quest for Certainty)

It is not difficult to imagine how profound was the shock produced upon the old notions of the universe by the new discoveries of the astronomers. The heliocentric theory, for example, was a heavy blow to the ancient theories of the universe. Change as it occurs in the gross material world is not worthy of any deep veneration. There is a permanence behind this apparent change; that is what we must seek. Such was the notion of the ancient scientists. The world of flux is predetermined and controlled by the powers which represent permanence and fixity. They are the gods, the forms or the immutable absolutes, and the permanent world behind this flux is the world of final and formal causes which are supreme. These were the notions that characterized the Aristotelian world. All the characterizing factors hang close together, and when any one is shaken out of its position, they all fall.

> "This is the reason why the intellectual modification of the last few centuries may truly be called a revolution. It has substituted a conception of the world differing at every point." (Reconstruction in Philosophy, p. 60)

Modern science presents us with a world which cannot be formulated into any static finality, or represented by any simple formula. Science is interested in correlation of changes and not in any changeless forms. It looks for constancy in order and not for constancy in forms, constancy in function and not constancy in existence.

Classical philosophy with its dogmatic concepts of the universe was a reflection of social, economic and political organization of the ancient times and the Middle Ages. A hierarchical principle of classification was established in all phases of life. Dewey calls this principle "a projection of the family principle into the world at large". It is characteristic of the feudal society, and despite the influence of modern science we still tend to think in terms of projecting social relationships into the events of nature. We still think of the laws of nature as being external to physical phenomena which they supposedly "control".

In emphasizing the need for reconstruction Dewey's main object is to show how the generalized formula of the Greeks had affected both philosophy and science alike. It is not only our philosophical thinking which is hampered by the ancient dogma, but our science also is full of concepts which suggest permanency and static forms. Space, time, energy, mass, matter are just such permanent forms. It is in this respect that Dewey and Whitehead are in perfect accord.

Greek philosophy was dominated by the aesthetic, the beautiful and the good. The beautiful and the good represented something that was finished, completed; it was the finite. The infinite was the chaotic and the unpredictable

- it was the base matter in flux. Today we are no longer concerned wholly with the aesthetic; every phase of our life is dominated by practical aspects. The Greeks failed to develop a truly scientific spirit because of their doctrine of final causes, which "taught that the processes of nature are held in bondage to certain fixed ends wich they must tend to realize".

With the elimination from nature of fixed ends and purposes, it appeared that the ideal and the spiritual were eliminated too. Quite frequently the trend of modern science has been questioned because it has completely failed to attain the absolute. Nature has become but a mechanical device, it is argued. It was this fear of losing the spiritual and the aesthetic which prompted the philosophers to devise some system by means of which science and the remnants of classical philosophy could be reconciled. Hence arose various schools of idealism to counteract the effects of materialistic science. To an idealist a philosophy which deals with the ultimate is essential, for science leaves the problem hanging in mid-air. Science, for example, fails to explain the problem such as that of secondary qualities. If the senses with the aid of scientific instruments cannot explain these qualities, then the mind is the faculty that can do it. Such was the argument of Berkely and the school that followed him. Then we had the attempt of Kant to solve

the problem by introducing the concept of the noumenal.

Dewey contends that Idealism had removed the mind from its natural surroundings. It placed it above nature by attributing to it the power to endow nature with secondary qualities and other spiritual faculties. The object of pragmatism is to bring mind back to nature and to have it placed in its proper relation with the order of natural phenomena. This, according to Dewey, can be done only through philosophical criticism. For him reconstruction in philosophy consists of a critical analysis of the old concepts and a construction of new ones. It is often argued that Dewey's is not the first critical philosophy. Had not Berkely introduced a critical method? This may be true, but his critical method eventually led to the establishment of notions of finalism and absolutism. The latter in turn caused a halt in the progress of critical analysis. The existing schools of Idealism exemplify the results of Berkely's critical analysis of perception. He did not apply his critical method to what Dewey considers as the real issues.

"The mechanization of nature is the condition of a practical and progressive idealism in action." What we must realize is that purposes are human, and not divine. Scientific method offers the means by which these purposes may be fulfilled. By despising the material and mechanical

we shall literally be throwing away the means. The unfortunate outcome of scientific development is that we are taking the means for the end; we are accepting science as the end in itself, whereas it ought to be taken only as means to a higher moral life of mankind.

> "When we take means for ends we indeed fall into moral materialism. But when we take ends without regard for means we degenerate into sentimentalism." (Ibid., p. 73)

Russell regards pragmatism as a philosophy which aims at appropriating the prestige of science. Science has gained prestige through its usefulness; and the pragmatists are trying to win some of this prestige for philosophy. The tendency, according to Russell, is to make philosophy useful at the expense of propagating error, and to make it respectable by attaching it to science. Although this characterization may be true of some pragmatists, it can hardly be said that it was Dewey's conscious aim to make philosophy respectable at the expense of science. It is more logical to regard his instrumentalism as an analitic method applicable in our scientific age.

Just as the classical philosophies constituted the analysis of the practical sciences of the day, so Dewey's philosophy is just such analysis of modern science. He takes science as the standard method of knowing. The basic principle in this method is experimentalism. Consequently his philosophy is really the analysis of this method as it has

proved to be the only workable procedure in science. His main advice to the philosophers is that they go to the laboratories of the scientists to learn the method of experimentation. Introducing this method into philosophy would mean getting rid of a lot of classical rubbish, so that philosophy would become a living analysis of a living process. The great misunderstanding of the philosophers as to what scientists are doing, says Dewey, consists in the fact that the philosophers, being under the influence of the Greek formula, continue to believe that the experimental method of science will eventually lead to the discovery of eternal truths.

Experience and Reason

Idealist philosophies have removed reason outside the field of human action and placed it in an ideal sphere as a supreme controlling agency. Is this the true character and function of reason?

> "Must man transcend experience by some organ of unique character that carries him into the super-empirical? Failing this, must he wander sceptical and disillusioned?" (Ibid., p. 77)

Can human experience as such progress and enlarge its field of operations without the aid of this supra-empirical agency?

Dewey emphasizes the idea that philosophy is one of the phases of human culture.

> "Those who assert in the abstract definition of philosophy that it deals with eternal truth or reality, untouched

> by local time and place, are forced to admit that philosophy as a concrete existence is historical, having temporal passage and a diversity of local habitations." (Philosophy and Civilization)

Those who claim that philosophy is the use of reason in search of eternal truth fail to realize how firmly it is grounded on human existence. It is the meaning of this existence that concerns man. Therefore, actually, "philosophy is occupied with meaning rather than with truth".

It is because of this conception that pragmatism has often been regarded as anti-intellectualist. It is anti-intellectualist to the extent that it completely renounces the tenets of classical logic and the idealist conception of reason. Reason is not an abstract faculty, but a constituent part of all the psychological factors involved in human activity.

Traditional philosophies stress the argument that experience can never rise above the level of the particular and the probable. Is it therefore possible to make experience a guide in the moral life of man? Dewey's answer to this question is in the affirmative, since moral life and moral ideals of man are themselves the product of experience. All our notions pertaining to the complexity of social interrelationships are formulated by our complex social experience The generalized and useful ideals are derived by the process of trial-and-error from the experience of the particulars.

This is the underlying process in the growth of scientific knowledge - the formulation of generalized rule. These rules can never become absolute certainties, since, being the outcome of experience which is in process of steady growth, they themselves must undergo similar change. Thus it is experience and not generalized rules that must remain the final test of truth.

The meaning of experience has undergone considerable change with the introduction into inquiry of new methods and techniques, and with the development of new biological and subsequent psychological studies. It is now a generally accepted view that the mental factor in experience is active and not passive. Experience does not consist of mere passive reception of stimuli from the environment and the necessary adaptation to it. Experience means more: the environment is being constantly modified and adapted to the organism. Even the lowest of organisms modifies its environment to a limited extent. In man this modification is accomplished by the most highly organized techniques of science. Experience now requires a new meaning - that of being active, of being concerned with doing.

> "The senses lose their place as gateways of knowing to take their rightful place as stimuli to action. To an animal an affection of the eye or ear is not an idle piece of information about something indifferently going on in the world. It is an invitation and inducement to act in a needed way. It is a clue in behavior, a directive factor in adaptation of life in its surroundigs". (Ibid., p. 87)

Thus Dewey presents us with the instrumentalist interpretation of experience. In a vital sense experience means not only reacting but also acting. There is no real experience unless there is some sort of doing. The interaction of the organism with the environment results in an appropriate adaptation in each. A stimulus from the environment becomes a clue to an appropriate action upon that environment. Stimulus, response, knowledge in pragmatism become new concepts which are understood as comprising the process of doing and acting. They constitute the process of interaction between the organism and the environment. Sensations are now conceived as relative to activity and not as elements in knowledge. "Sensations ... are emotional and practical rather than cognitive and intellectual." They are the result of recurring changes in the environment; changes which shock the organism out of its previous adjustment. It was this new conception of experience which led Dewey to undertake the project of practical and philosophical reconstruction in the field of education.

From the pragmatic viewpoint experience becomes a continuous process where sensations lose their atomistic character. There is thus no further need to postulate any supra-empirical intellect to link the apparent unit sensations into a continuous chain. Experience does not entail a special faculty.

> "The true 'stuff' of experience is recognized to be adaptive courses of action, habits, active functions, connections of doing and undergoing: sensori-motor coordination." (Ibid., p. 91)

To the ancients experience meant the living-up to the rule-of-thumb regulations of the past, the adherence to the customary modes of conduct recognized as right and proper. The true scientific method was so slow in progress because of this retarding influence of custom which rested on set universal principles, or patterns. The object of Plato's Republic, for instance, was to work out a system of such patterns, thus making them more permanent; then, in accordance with these patterns human conduct could be constantly regulated. In the age of science, former experience no longer serves the purpose of establishing immutable patterns, but is employed in working out new methods for continued and improved experience.

As consequence of these alterations in concepts, reason is no longer regarded as something supra-natural imposed upon experience. It is part of experience itself, through which its validity is tested and through which it is employed in furthering knowledge.

> "For reason is experimental intelligence, conceived after the pattern of science, and used in the creation of social arts; it has something to do. It liberates man from the bondage of the past, due to ignorance and accident hardened into custom." (Ibid., p. 96)

Reason is the outcome of experience, and its reapplication

in furthering experience is what may be called intelligence. Intelligence then is in a steady process of formation.

Dewey considers the philosophic forms of rationalism as leading to irresponsibility, because of the assumption that reason is self-sufficient, requiring no verification from brute experience. The net result of this assumption was the disregard for observation and experiment. Reason was an efficient instrument used in rationalizing old dogma. Kant's philosophy is an example of intellectual justification of the subordination of individual minds to a set of a priori principles based on universal reason.

Meaning of Reality

The characteristic feature of classical philosophy is its conception of ultimate reality, a purely ideal construct. The concept of a systematized ultimate reality was an elaborate projection of the idealized modes of conduct, hopes and aspirations of humanity. Religious ideals belong to this category.

> "What are they, these Forms and Essences which so profoundly influenced the course of science and theology, save the objects of ordinary experience with their blemishes removed...?" (Ibid., p. 105)

Perfect ideality of philosophy was the opposite of the strenuous and roublesome life in the world of reality. By way of idealism philosophy offered a mechanism of escape. The ideal and the permanent spelled security in the face of the

many vicissitudes and uncertainties in the everyday world of experience. The only ultimate and true knowledge could be solely of this permanent, timeless reality.

> "In contrast with such knowing, the so-called knowing of the artisan is base. He has to bring about changes in things, in wood and stone, and this fact is of itself evidence that his material is deficient in Being." (Ibid., p. 110)

The object of the classical philosophy, therefore, was the knowing of this ultimate reality. Through the channels of this philosophy and its neo-classic elaborations this theory of knowledge found its way into Christian theology and into modern schools of Idealism.

> "There was bequeathed to generations of thinkers as an unquestioned axiom the idea that knowledge is intrinsically a mere beholding or viewing of reality - the spectator conception of knowledge." (Ibid., p. 112)

In contrast with this theory of knowledge modern conception involves the factors of studying the changing reality and of inducing change through experimentation in order to discover more and more characteristics of what science calls the real. The apparent permanence of things must be broken down so that their real nature - that is, their changing nature - may be better known. Thus knowledge becomes purposive to action; it is not just knowledge for the sake of knowledge, or at one's disposal in attaining ends which are present in the mind. This is a new concept of knowledge as active, purposive, and instrumental to

action; it is no longer contemplative, but practical.

This concept is one of the most outstanding contributions of pragmatism to present day philosophical thinking. Ideas, being the outcome of the active knowing, also become instrumental. In classical philosophy an idea stood for an absolute reality to be attained. For Dewey ideas are instruments for action in the real world here and now. Real problems give rise to ideas, but ideas will remain mere dreams and fantasies unless they become instrumental in solving problems.

In the world of science knowledge then is no longer contemplative; "for the experimental sciences, it means a certain kind of intelligently conducted doing". Like general matter-of-fact knowledge, philosophy must also become practical and experimental in order to be of value.

> "It signifies that the prime function of philosophy is that of rationalizing the possibilities of experience, especially collective human experience." (Ibid., p. 122)

Thus far such desired change has not taken place in our philosophy. It has not yet broken away "from the assumption of a merely beholding mind on one side and a foreign and remote object to be viewed and noted on the other". If knowing is regarded as an active process, then no epistemological difficulties can arise, for we are getting rid of the separation between mind and matter, between subject and object. It is this same problem of dualism that had troubled

Bergson. His solution of the problem is apparently much simpler than Dewey's, but is of no practical consequence.

It is difficult to conceive how the elimination of the traditional problems would still leave any tasks for philosophy. Philosophy, as generally understood, would become superfluous, for all practical tasks would no longer fall under its scrutiny; they would come under various branches of science. And even if we should eliminate philosophies which deal with the ancient problems of knowledge, this does not necessarily imply that the problems would no longer arise. The problematic questions would continue to arise in the active minds. There are questions which the mind cannot expell from its sphere of activity; that of absolute knowledge is one of them. No matter whether we consider knowing as a process of interaction, or whether we accept it as a passive receptivity, we are still confronted with the question: What really happens when there is knowing? From the practical standpoint of pragmatism it must be contended that nothing is solved by dismissing the question.

Dewey speaks of the poverty of our "contemplative aesthetic appreciation", and of the fact that until now we have failed to reconcile the latter with the attitude of practical science. He thus admits that contemplation of the beautiful and the good has an essential human value. But

contemplation is not knowledge in the instrumentalist sense of the word. It is a method of the sterile metaphysics and a survival of classical philosophies, according to his own analysis. Hence, contemplation can never be reconciled with science. It is not quite clear, therefore, what Dewey means by reconciliation, nor just what it is exactly that he is trying to reconcile.

What is Truth?

> "By their fruits shall ye know them. That which guides us truly is true - demonstrated capacity for such guidance is precisely what is meant by truth... The hypothesis that works is the true one; and truth is an abstract noun applied to the collection of cases, actual, foreseen and desired, that receive confirmation in their works and consequences." (Ibid., p. 156)

It is evident from the pragmatic conception of knowledge and reality that it has no aspirations to attaining absolute truth. However we may interpret truth, it is always human truth, changeable and fallible like very other human enterprise. What we call truth is purely psychological; it is characteristic of our beliefs and not of the world of empirical facts. Such is Dewey's basic notion of truth.

Dewey's conception of the activity of the mind is very similar to that of Bergson's. The mind analyzes and selects in experience. Its activity is thus instrumental to survival; we select those elements in our analyzed experience which have survival value for us. It is because of

this value that we call these elements true. The same analysis applies to our beliefs. If they are such that their consequences have functional utility, then they are said to be true. Any belief which precedes experience can be neither true nor false. Its truth or falsehood must be established by an experiential test. The only conclusion to which this conception of truth leads us is that we make our own truths in the process of experience.

We see, therefore, that in pragmatism ideas are judged true or false not according to any universal principles from which they are supposedly derived, but according to their consequences. Consequences are verifications of the truth of ideas. We may ask then: How is it at all possible for us to form ideas and hypotheses the truth of which must be validated in experience? Do our ideas and beliefs not already envisage the truth, even though vaguely? And should an hypothesis or an idea prove useful, was it not already true before the test of experience? Does the truth in this sense not precede its own making? From these considerations it appears that it is not the successful functioning of beliefs that makes them true, for if that were the case, the question of truth or falsity would not enter at all into the belief which has not been tested. In so far as the testing of scientific beliefs or hypotheses is concerned this conception of truth may be quite admissible, but what

shall we say about beliefs in moral, ethical and religious spheres? How can they be tested? One can only say that our beliefs in these fields are as much hypotheses and postulates as are those in science. No beliefs are absolutely true, but they tend to be progressively more so, unless proved to be absolutely false. The only difficulty here is that we have not yet devised any laboratory methods of inquiry for the testing of the postulates pertaining to moral and ethical conduct. The assumption that such methods are possible is quite warranted, but it is still an assumption.

For Dewey truth is an intrinsic part of action. It has value because it is useful, and its usefulness ensued from action, which is the outstanding characteristic of pragmatism. Before an idea can be proclaimed true or false its value must be verified in action. It was James who had claimed that a true idea is the one that works, that is, we must see our ideas as having some "cash value". With Dewey there is a further elaboration of this notion. Thought becomes a tool; it is instrumental in the solution of human problems. There is an entirely social implication in this concept. When man has learned to face his problems with the tools of science and intelligence he will eventually solve them more efficiently.

Since knowledge is instrumental to doing, it

affects that which is known. And since that which is known, is known only because it is instrumental to action, it is therefore true. Consequently we manufacture the known reality in the same manner in which we create our own truths. Such is the metaphysical aspect of pragmatism.

> "That which may be pretentiously unreal when it is formulated in metaphysical distinctions becomes intensely significant when connected with the drama of the struggle of beliefs and ideals." (Ibid., p. 26)

Logic, Truth and Morals

> Logic "is elevated into the supreme and legislative science only to fall into the trivial estate of keeper of such statements as A is A and the scholastic verses for the syllogistic rules." (Ibid., p. 132)

Logic had been accepted for ages as the science which deals with the laws of thought, and since thought is the product of the universal reason, therefore logic should be capable of arriving at the ultimate structure of the universe. Today it is regarded by philosophers either as a branch of metaphysics or as a branch of persuasive rhetoric.

The foundation of logic is judgment. Judgment, however, is personal and psychological; it does not appear to have any connection with logic which supposedly deals with "universal laws of thought". According to Dewey the vast controversial issues in logic are of no practical consequence in experience, unless logic becomes a "systematized formulation of the procedures of thinking" - if thin-

king is one of the essential ways in which we deliberately reorganize experience. The only thing that logic can tell us is how men think; it can never tell us in what way they ought to think.

Just as in logic, so in mathematics there has been a tendency to consider proofs and arguments as being based on a priori principles, having no direct connection with empirical experience. Dewey contends that mathematics is as empirical as all other practical sciences.

> "Men began with counting and measuring things just as they began with pounding and burning them." (Ibid.,p.137)

He does not draw sharp lines of distinction between the experimantal method in science and the thought processes in mathematics. The so-called a priori truths in mathematics are really the result of ages of experience. Therefore, both logic and mathematics are founded on experiment and experience. They are the formulations and systematizations of methods of experience.

Thinking is a method of meeting difficulties and of solving problems with which man is continually confronted in his everyday experience. It begins with problems, not with premises. It functions not merely in passive knowing of reality, but what is more important, in altering the reality to suit our purposes. Observation and experience are not prior to thinking, as assumed by the idealist

philosophies, but are simultaneous with it. It was this idealist assumption wich led to a sharp division between theory and practice, the latter being looked upon as if it were of a lower order than the former

> "It creates a class of 'thinkers' who are remote from practice and hence from testing their thought by application - a socially superior and irresponsible class. This is the condition causing the tragic division of theory and practice, and leading to an unreasonable exaltation of theory on one side and an unreasonable contempt for it on the other." (Ibid., p. 140-41)

Thinking is a method of purposive reconstruction of experience. It is a process by means of which relevant factors are brought to bear upon the immediate problem. It not merely accompanied obseravation, but is, in fact, an intrinsic part of it, for it is "a search for evidence" which eventually leads to the solution of the problem and to the inference of the future possibilities. From this viewpoint thinking becomes instrumental in formulating hypotheses.

> "Instrumentalism is an attempt to constitute a precise logical theory of concepts, of judgments and inferences in their various forms, by considering primarily how thought functions in the experimental determinations of future consequences." (Development of American Pragma.)

In somewhat different words Dewey claims that the instrumental theory

> "says that knowledge begins with specific observations that define the problem and ends with specific observations that test a hypothesis for its solution." (Reconstruction in Philosophy, p. 148)

There are therefore two kinds of instrumentality in experience, physical and intellectual. The latter in its activity goes far beyond any immediate use in practice. Consequently it can be employed in solving problems not yet anticipated. Such intellectual instrumentalities are abstractions which become applicable to possible problems which may arise in the future.

> "Abstraction is liberation. The more theoretical, the more abstract, an abstraction, or the farther away it is from anything experienced in its concreteness, the better fitted it is to deal with any one of the indefinite variety of things that may later present themselves". (Ibid., p. 150)

Abstractions and general ideas are useful instruments in classification, which in turn is concerned with "successful action for ends". The successful facts of experience are thus constantly being reduced to meanings through the use of abstractions and general ideas. These same ideas are then applied again to the solution of newly arising problems.

The test of ideas, conceptions, theories and systems lies in their effectiveness in the reorganization of experience. "If they succeed in their office, they are reliable, sound, good, true." Truth then is a relative concept; it consists of positive validity of ideas in reconstructing experience. Before we can decide on the truth or falsehood of an idea or a theory we must evaluate its con-

sequences. This concept introduces one of the most contentious elements into pragmatism. According to logical analysts, for example, no hypothesis can be absolutely verifiable. Therefore no hypothesis can be categorically accepted as either true or false. The validity of hypotheses can be determined only on the basis of some validating criteria. And Dewey's criterion of utility as a test of validity is not sufficiently comprehensive. On the other hand we must agree with Dewey that truth is not something ready-made and absolute; nor is it a property of things. It is functional, and changes with conditions and circumstances of experience; we must not identify it with authoritative dogma.

> "Ethical theory began among the Greeks as an attempt to find a regulation for the conduct of life which should have a rational basis and purpose instead of being derived from custom." (Ibid., p. 161)

From the time of Greek philosophers ethical theories had been dealing with the search for some final end or absolute good as the supreme law of conduct. This supreme law had later found expression in such notions as the Divine Will, or in such forms as the secular ruler and the principle of duty. Among diverse schools which differed in minor details, there was complete agreement to the extent that they all aspired to some absolute criterion of conduct. The numerous moral theories were the product of the age to

the same extent as the general philosophical concepts which envisaged a static and ordered universe, "wherein rest is higher than motion".

> "After all, we are only pleading for the adoption in moral reflection of the logic that has been proved to make for security, stringency and fertility in passing judgments upon physical phenomena." (Ibid., p. 165)

But set principles and dogmatic universals continue to hinder inquiry into our moral conduct. Instead of using intelligent inquiry we still accept blind rules which have been handed down to us by the generations of the past. Many of these rules at one time or another may have had practical significance, but most of them evidently no longer apply to our needs.

There is no attainable general goodness, for action consists of specific instances. Our judgments as to specific acts to be performed must also be individual and not general. The arguments relating to truth are of the same nature as those relating to moral conduct. We cannot deal with generalities, for these are only abstractions; we must deal with particularities. Generalized rules and maxims are enslaving our conduct. Generalized goods are mere classifications which may only suggest to us what to look for in the particular cases.

The belief in fixed moral rules has led to many controversial issues, such as those that relate to the ideal goods on the one hand and the material goods on the other.

The ideal goods are completely divorced from the practical issues in life. The search for these goods has become a fanciful pastime for those whose material goods are abundantly supplied to them and for the others who have not yet broken away from the ancient spell of some permanent all-embracing form of the good in some non-empirical world.

> "Morals is connected with actualities of existence, not with ideals, ends and obligations independent of concrete actualities. The facts upon which it depends are those which arise out of active connections of human beings with one another, the consequences of their mutually interconnected activities in the life of desire, belief, judgment, satisfaction and dissatisfaction." (Human Nature and Conduct, p. 329)

Our scientific concepts have not yet become humanistic; the dualism between science and morals still persists According to Dewey, inquiry and discovery take the same place in morals as they do in natural sciences. The process of validation becomes experimental, and is based on consequences. No purpose can be acclaimed good or bad until the consequences of its adoption have been noted. One difficulty which arises from this position is that any form of conduct becomes absolutely impossible, for we simply cannot tell the consequences until we have acted. How, then, are we going to formulate our purposes so that the consequences may be good? For example, at the moment there is a common belief on the part of humanity that the purpose behind atomic research is a form of activity - that is, war - the con-

sequences of which, we commonly agree, are evil. Such being the case, the main concern of our governments should be to put a stop to all atomic research. But at the same time, on the basis of what is known about atomic fission, we can conceive another purpose of this research: much more efficient source of energy to be employed in improving our material welfare. If war breaks out, and atomic energy is used to destroy human lives and the accomplishments of our civilization, we should then say that the purpose behind the research was evil and immoral. If on the other hand it is not used for destruction, and we are given the added source of energy for our industrial life, we can then proclaim the purpose as being good. The difficulty consists in that we have to wait for the consequences before we can pass our moral judgment on the act. Our whole moral life then becomes a matter of a long chain of experiments, for we have no previously set or fixed ends. "The end is no longer a terminus or limit to be reached. It is the active process of transforming the existent situation." Thus we are dealing with processes and directions, not with ideal limits.

Happiness and the theories of happiness have been occupying moralists for ages. It has been conceived in various forms, but it has been most commonly represented as a bare possession, as some fixed attainment. It is generally regarded now - Dewey is quite dogmatic on this point - that

> "happiness is found only in success; but success means succeeding, getting forward, moving in advance."
> (Ibid., p. 179)

However, Dewey's use of the terms success and succeeding need further psychological exlanation if they are being used in a novel sense and not in the common sense of the word. The common notion which is the reflection of our material life, is that success implies the attainment of social status and prestige, and these are in the final analysis measured in terms of material acquisitions.

The first to break away from the classic conception of set moral ends was the utilitarian school. But it was still under the influence of some old ways of thinking. It overemphasized the so-called instinct of acquisition in man, and overlooked the more important one of creativity.

> "In spite of its interest in a thoroughly social aim, utilitarianism fostered a new class interest, that of the capitalistic property-owning interests, provided only property was obtained through free competition and not by governmental favor." (Ibid., p. 182)

In social philosophy Dewey's views stem from the basic assumptions which are characteristic of instrumentalism. According to him there are only three possible alternatives on the basis of which society may function. The first of these is that society may exist for the individuals; the second, that individuals may exist for society. The third, the basis of pragmatist sociolody, is that both individual and society are correlative and organic to each other,

"society requiring the service and subordination of individuals and at the same time existing to serve them."

It appears that all the notions pertaining to social organization suffer from the same defect which we encounter in classical philosophy as a whole: the use of the logic of generalized ideas. What we should deal with are individual situations and concrete social problems. Our notions of these problems consist of "ready-made principles to be imposed upon particulars in order to determine their nature". These principles are general ideas, whereas we should have concrete and specific reference to particular questions. The strongest argument that Dewey presents in this respect is that we are successfully employing the experimental methods of science in all physical fields of enquiry except in the fields of human conduct and social organization. Here we continue to rely on the ancient method of syllogistic argument, refusing to test the soundness of our major premises by submitting them to the scrutiny of induction and experimentation.

The organic point of view tends to minimize the importance of single problems, since it accepts the processes in society as parts of more inclusive and "necessary" process. "Capital and labor cannot really conflict because each is an organic necessity to the other; and both to the organized community as a whole." It was by using such logic

that Aristotle could easily prove that slavery was both necessary and in the interests of the slave class. Thus runs Dewey's criticism of our social thinking.

> "The social philosopher, dwelling in the region of his concepts, 'solves' problems by showing the relationship of ideas, instead of helping men to solve problems in the concrete by supplying them hypotheses to be used and tested in projects of reform." (Ibid., p. 192)

It is persistently believed that individuality is ready-made, that it is something given to a person. Such is not the case, however; it is something achieved through the process of socialization. The self is not a given unity; it is built up through the influences of the social environment.

> "When the self is regarded as something complete within itself, then it is readily argued that only internal moralistic changes are of importance in general reform." (Ibid., p. 196)

Individuality is created under the influence of associated life. Such terms as "individual", "social", etc., are generalized notions, and do not stand for anything concrete, but consist of multiplicity of factors, each one of which must be investigated before we can know the meaning of the general concept.

It was by way of his early considerations of this interactive process in the development of individuality and the development of the socialized being that Dewey construed a new philosophical approach to education. The conception

of education as a process of doing-undergoing, of action and interaction, has been exerting continuous influence upon the methods, techniques and organization of our educational procedures. It is unfortunate that through misinterpretations, and through overenthusiastic acceptance of some of Dewey's postulates unpleasant repercussions have arisen and continue to arise in this sphere of our endeavors. But this is a subject in itself, and cannot be dealt with here.

PHILOSOPHY OF LOGICAL POSITIVISM

Historical factors

Logical Positivism or Logical Empiricism, as it is called by Ayer and the Oxford group of positivists, is not really a philosophy in the commonly accepted sense of the term. It is rather a method of philosophical analysis. From the time of the famous Vienna Circle of the early 1920's there has developed a sharp divergence between two groups of positivists on certain basic issues of philosophy and logic. The leaders of the two groups at the present time are Carnap of the University of Chicago and Waismann of Oxford. Carnap insists on the sharp distinction between synthetic or empirical and analytic or a priori propositions. According to him synthetic propositions are about matters of fact; they are hypotheses which are validated by experience. The analytic propositions are simply those of logic and mathematics; they are certain and necessary simply because they make no assertions about the empirical world, but express our agreement on the use of symbols in a particular way. He also introduced a distinction between object-language and syntax language; our inquiry being carried on in the former.

Waismann claims that it is impossible to draw a sharp line between empirical and a priori propositions. Some propositions cannot be classified as either one or the

other; they may be halfway between empirical and analytic. The Oxford group of positivists consisting of Waismann, Ryle and Ayer, are all critical of Carnap's extreme formalism and complex symbolism. The division between these two groups of positivists has been due to the differing trends in general philosophical thinking in England and in America.

The original Vienna Circle was inspired by the mathematico-logical writings chiefly of Russell, Whitehead and Wittgenstein. But during the 1930's the English group of positivists was under the great influence of G.E. Moore's "common-sense" philosophy, while Carnap still derives his inspiration from the American mathematical logicians. He has also been influenced to a certain extent by Dewey's instrumentalism. However, despite the distinctions in the recent trends, there are certain basic methods which give logical empiricism its distinguishing character of logical analysis.

Object of Philosophy

The method of approaching philosophy by way of language analysis began with a question of doubt: Can the speculative enterprise carried on by metaphysicians reveal to us the nature of the universe? The doubt raised by this question leads to an idea that all mental speculation tells us a great deal about the functioning of the mind, but next

to nothing about the constitution of the universe. According to the philosophical analysts, the main object of philosophy is to analyze and clarify the meanings of common-sense statements; that is, making clear and precise what we mean by words when we use them in a significant manner. Thus by analyzing language statements we may obtain some information concerning the structure of the factual world. Consequently Logical Empiricism in its epistemological approach is concerned mainly with cognitive meanings. Or as Feige explains it:

> "The meaning of words, then, or of signs quite generally, consists in the way in which they are used, the way they are connected with other words or related to objects of experience. The definition of a term, the declaration of its meaning, amounts to a statement of the rule according to which we employ or intend to employ the term."
> (Logical Empiricism)

Strictly speaking philosophical analysis does not lead to the discovery of new facts; it does not add to our knowledge of the world. The object is to clarify the meaning of what it is we are knowing when we say that we know ordinary facts? Just what is it we mean when we assert something to be true? Words may have meaning either from the grammatical point of view, or they may represent philosophical concepts. The object of philosophical analysts is to restate the so-called true statements with greater clarity and precision. The method necessitates replacing of metaphysics with the scientific method of obtaining information

about the universe.

> "Much philosophy is worthless because it persistently makes use of ambiguous words, and many philosophical controversies are unreal because the protagonists are using expressions such as space, time, matter and reality in different senses." (Feige)

Logical Empiricism introduces a sharp distinction between the formal and the factual sciences, i.e. between logic and mathematics on the one hand, and the natural and social sciences on the other. Logic and mathematics do not provide us with any information about matters of fact. They only make it possible for us to express ideas in more than one form. The forms of expression may differ, but the ideas remain the same. The inductive process is merely a guidance from premises to conclusions. A system of logic is only one of our symbolic conventions in regulating precision in meaning. Like mathematics, it is useful in developing greater definiteness in our scientific endeavors.

As a theory of knowledge Logical Empiricism is concerned purely with cognitive meanings. Its criterion, then, is that of factual meaningfulness.

> "The purpose of this criterion is to delimit the type of expression which has possible reference to fact from the other types which do not have this kind of significance: the emotive, the logico-mathematical, and - if there should be such - the completely non-significant."(Feige)

The so-called metaphysical problems and their "solutions" depend on the faulty presumption that the non-cognitive meanings are valid in so far as factual meanings are concerned.

One class has been usually mistaken for the other. It is true that emotive expressions are important in language, but they should not be confused with expressions which have purely informational function. On the basis of this notion all factual knowledge must be confirmed by experience. At the same time, all ethical and moral statements being mere assumptions expressible only in emotive language, are incapable of test.

Logical Positivism of Ayer

> "I maintain in this book that it is not within the province of philosophy to justify our scientific or commonsense beliefs; for their validity is an empirical matter, which cannot be settled by a priori means. At the same time, the question of what constitutes such a justification is philosophical..." (Language, Truth and Logic, p. 25)

This is the thesis which Ayer maintains throughout his book. If philosophy is to be an object of knowledge it must be clearly distinguished from metaphysics. Metaphysical propositions are without any meaningful content, for they express neither tautologies nor empirical hypotheses. What then should be the objects and functions of philosophy? What should be its basic method?

To begin with, all logical empiricists regard philosophy as an activity of analysis. Logical positivists represent extreme views in such analytic methods. According to them the function of a philosopher in the age of science

is not to introduce speculative truths comparable to the hypotheses of science, but to clarify propositions of science by showing their logical relationships and by defining existing scientific symbols. If philosophy accepted these as its objective, it would eliminate controversial issues and conflicting "schools". In the final analysis all metaphysical systems aim at defining or describing truth. But truth or falsehood applies only to propositions expressed in language symbols, and every proposition should be verifiable only on the basis of its relevancy to some possible sense experience. If it cannot be thus verified, it is neither true nor false, but simply senseless.

All metaphysical systems begin with an assumption that philosophy gives us knowledge of reality beyond science and common sense. Every metaphysician, says Ayer, begins his arguments in favor of a transcendent reality with certain premises from which he deduces his propositions. But in the final analysis his premises must be based on his sense-experience. We must examine the validity of the process by means of which a metaphysician arrives at his conclusions about a transcendent reality. The logical positivist would say that nothing outside the empirical can be legitimately inferred from premises not based on sense experience. Bergson would argue against this position of the logical positivists by saying that there is a form of intu-

ition by means of which such supra-sensible knowledge may be attained. In this kind of knowledge no sense experience need be involved.

In order to criticize effectively a system of transcendent metaphysics it is necessary to go beyond the mere criticism of the way in which such metaphysical system comes into being. One must analyze the nature of the statements which comprise the system. Professor Ryle says that the task of philosophy is linguistic analysis. "Philosophy is talk about talk." It grew out of verbal puzzles of a specific kind; metaphysical, ethical and aesthetic propositions are not necessarily false, but they are literally meaningless, for they are incapable pf being verified

A statement referring to a "reality" which transcends sense experience cannot have any literal significance. Thus, according to Ayer, transcendent metaphysics becomes a hodge-podge of nonsense. However, by proving the impossibility of metaphysics we are not disproving the possibility of a transcendent world. By implication our proof is a form of limitation; and by limiting we are actually implying the possibility of something beyond the limited. Such were the arguments produced against Kant's position. The difference, however, between Kant and logical positivists is that Kant showed the impossibility of transcendent metaphysics a matter of fact. Logical positivists show that metaphysics

has no sensible meaning. But in so far as logical positivism is concerned the above argument has no value, for here the problem is not that of the constitution of the human mind, as it was in Kantian philosophy, but of the significance of language in metaphysical propositions. Metaphysicians fail not in their use of understanding but in the form of their propositions to which no literal significance can be attached.

Logical positivism rejects transcendental metaphysics and adopts a criterion of verifiability for testing the significance of statements of fact. To this extent it is in perfect accord with Dewey's pragmatic position. Verifiability can be practical or in principle. The former requires complete reenaction of sense experience with which a given proposition deals, and the latter is accepted on the ground that it could be verifiable if the necessary conditions were available. Thus, a particular statement has significance to a given individual if he knows that it could be verified in either of the above ways. Such possible verification obliges him to accept the proposition as either true or false. Ordinary everyday empirical testing affords examples of practical verifiability. Ayer offers as an example a proposition that there are mountains on the other side of the moon. There are at present no means by which to verify the proposition by actual observation, but we are

certain that if such observation could be made it would prove the proposition to be true.

There are propositions however which cannot be verified either in practice or in principle. If we take a proposition such as, "Instinct is innate knowledge of a thing", we find that it cannot be verified even in principle, for the terms of the proposition lie outside functional experience. And therefore, unless the proposition is symbolic of some actual or possible experiential occurence, it has no significance.

Practical verifiability may be considered as conclusive, whereas that in principle is only partial. Ayer, with some of the other positivists of the Oxford group, believes that there is really no proposition which can be conclusively verified. This includes even those propositions which are known as the laws of science, since these propositions include an infinite number of cases, and therefore there are always cases to which they may not apply; there may be cases which these propositions would not cover. Consequently it must be concluded that all propositions can at the most remain only probable hypotheses. Does this situation necessarily imply that "it is impossible to make a significant statement of fact at all"? Not necessarily, for we need not accept the positivist meaning of "fact".

If no statement can be conclusively verified, it

cannot be conclusively confuted. Therefore neither lack of definite verifiability nor the impossibility of conclusive confutation control the truth or falsity of a proposition. Consequently we cannot consider truth or falsity of a proposition as being definitely determined by an observation. We can only consider to what extent the observation is relevant to the proposition in question.

> "For a statement of fact to be genuine some possible observations must be relevant to the determination of its truth or falsehood." (Language, Truth and Logic)

The criterion of logical positivism rules out as insignificant and even nonsensical certain metaphysical controversies which still occupy some schools of philosophical thinking. One of these controversies is that between monism and pluralism where the concept of "substance" is involved. From the viewpoint of logical positivism the question becomes wholly irrelevant.

All empirical hypotheses are propositions with factual content; they are relevant to some actual or possible experience. A statement which has no such relevancy is not based upon empirical hypothesis and consequently cannot have factual content. The a priori propositions of logic and mathematics are certain and necessary because they are tautological, and have no necessary connection with the empirical world. A metaphysical proposition is neither a tautology nor an empirical hypothesis; it is

therefore without meaningful significance.

The position of Ayer as a logical empiricist to begin with, leads him to investigate the origin of metaphysics. How did it come into being? What prompted the formulating of certain metaphysical concepts? A good example of such a concept is the one we term "substance". Our language is unable to deal with the names of the properties of a thing without creating a name for the thing which supposedly underlies these properties. It is assumed therefore that every name must refer to some real entity for which it stands, and that there consequently must be a distinction between real entities and their properties. The word "substance" was introduced to apply to the supposed real entities. It is evident, however, that no single name is necessary, for a thing can be just as efficiently described by using names which apply to its qualitative appearances.

> "Logical analysis shows that what makes these 'appearances' the 'appearances of' the same thing is not their relationship to an entity other that themselves, but their relationship to one another. The metaphysician fails to see this because he is misled by a superficial grammatical feature of his language." (Ibid.)

It is the consideration of mathematics which leads to metaphysics. An example of this is the concept of Being. It arises out of the fact that in our language the grammatical structure of the sentence which expresses existence is the same as that of a sentence which expresses an attributive proposition. This leads metaphysicians to assume

that such sentences are of the same logical type. Ayer gives an example of this error by pointing out that in the sentence "Martyrs exist", the idea of existence is taken to have the same attributive sense as the idea of suffering has in the sentence "Martyrs suffer". In the way of criticism, however, it must be drawn to Ayer's attention that in the latter sentence by attributing the idea of suffering to the subject, we are implicitly admitting the notion of the subject's existence. But if existence is to be accepted as an attribute, says Ayer, then all existential propositions become mere tautologies, and the negations of these propositions would be self-contradictory, which is not the case. It is senseless, therefore, to consider existence as an attribute.

Thus it turns out, as shown by Carnap, that the so-called philosophical problems are really grammatical. By avoiding errors in syntax we either solve these problems or prove them to be incapable of solution. Or as Russell points out in his theory of descriptions, the problem of existence disappears once we realize that existential propositions are descriptive; that is, existence can only be asserted of descriptive propositions. The fallacy of metaphysical speculation on Being arises from the fallacy of considering existence as an attribute. We constantly tend to attribute to grammatical subjects corresponding real entities which

supposedly underlie the subjects. If these entities cannot be found in the empirical world, they are searched for and "located" beyond it. Hence the reason for Plato's Forms, rationalist "substance", Kant's noumena, and so forth.

The main source of metaphysics, therefore, according to logical positivists, is linguistic confusion. There are those who claim that although metaphysics cannot indicate any final truth or falsehood, it may still be considered as having emotional and poetic value in the form of moral and aesthetic inspiration. This may be true, but the difficulty arises out of the fact that metaphysicians aim at expressing truth and not merely at composing sentences which would appeal to the emotions. A mystic is the one who must appeal directly to human emotions. He is thus a poet in a way. But whether a metaphysician is a mystic, or whether he is being confused by grammar, in either case he is expressing nonsense.

Thus far we have reviewed the positivist explanation of the origin of metaphysics and its fruitless efforts in the attainment of new knowledge. Now, we may ask, what is the function of philosophy from the positivist viewpoint? Is it the business of a philosopher to construct a deductive system beginning with a set of postulated principles? Logical positivists question the right of philosophy to do so,

since, according to them there are no first principles from which reality can be constructed. The so-called first principles cannot function as the basis for knowledge, since they are not derived from experience. Descartes, for example, constructed a rationalistic system by beginning with his first principle of cogito, but actually he had no logical right to deduce existence from thinking. In order to be able to use this principle he had to accept causality as self-evident. It is true that science makes use of general principles, but these have originally been arrived at inductively. From these observations of the positivists it may be concluded that it is not the business of philosophy to set up first principles upon which to construct a system.

The function of philosophy then does not consist in the search for absolute principles, nor for any a priori truths to justify our scientific and common sense assumptions. It is not its business to test the validity of the hypotheses of science. The function of philosophy, according to the positivists, should be wholly critical. Its object should be to show man how his beliefs and conceptions can either be justified or proven false by experience; that is, a philosopher can only give us evidence for the truth or falsehood of our empirical propositions. In the final analysis this evidence lies in the sense experience.

Philosophers like Bergson, for example, refuse to give science full credit for knowledge because they have been unable to solve the problem of induction. But there is really no such problem. The validity of scientific hypothesis does not rest on any proof of induction.

> "Actually, we shall see that the only test to which a form of scientific procedure which satisfies the necessary condition of self-consistency is subject, is the test of its success in practice. We are entitled to have faith in our procedure just as long as it does the work it is designed to do - that is, enable us to predict future experience, and so to control our environment." (Language, Truth and Logic, p. 50)

Ayer emphasizes very strongly that philosophy does not consist of speculative formulation of truths, nor is it a search for first principles, nor is it a systematization of a priori judgments. Philosophy is analysis of propositional statements, and not metaphysical speculation as commonly understood. It is for this reason that he distinguishes between metaphysics and philosophy regarded as a special branch of knowledge. It would even be advisable to discontinue the use of the term "philosophy" on account of its metaphysical implications. We cannot conclude, however, that all philosophers have been metaphysicians. Locke's endeavors, for instance, consisted mainly of analysis. Hume in the main was an analyst; and Berkeley, who is looked upon as an out-and-out idealist, had employed the process of analysis to a great extent. It was really Hume's

analysis of propositions purporting to establish causal relations which eventually led to the method of logical analysis.

Philosophy in the sense of logical analysis is wholly independent of metaphysics. Analysis as understood by Ayer does not mean analysis in the sense of atomism. Nor is it "directly concerned with physical properties of things". In his sense of the term it is concerned only with the way in which we speak about things and their properties. That is, the propositions of philosophy are about language and not about facts. Thus philosophy becomes a branch of logic. When we are making propositions about things we are merely defining them, which in no way modifies them in so far as their empirical constitution is concerned, whatever that may be. Therefore logical analysis cannot interfere with scientific assumptions, for the latter deal with empirical facts, whereas the former deal with propositions about these facts.

Possible confusions in logical analysis may arise out of the fact that propositions which are purely linguistic are usually expressed in such manner as to appear factual. These linguistic propositions may be dealing with symbols or symbols of symbols; and the form in which the symbols are put in the proposition may make them appear as if they were empirical facts. As Waismann says, "there is

something unsettled about language". There are certain possibilities of which under normal circumstances we may not be aware. For example, the statement, "Space has three dimensions" is of the same grammatical form as the statement, "I have three hats". But when we carefully examine these two statements we discover that only the second one is factual, for it can be empirically verified. The first statement, although it appears to be verifiable in principle at least, is not a necessary truth; there is no reason why space should not have more than three dimensions. In addition to this, the terms in this statement are much more highly symbolic that those in the second. Waismann places such statements halfway between empirical and analytic.

The Method of Philosophical Analysis

Philosophy provides definitions of terms; not the explicit definitions of the dictionary type, but those which are currently in use. An explicit definition consists of a symbolic representation of another symbol, both symbols being synonymous. A definition in use does not consist of a synonymous symbol; it involves the fact that the proposition in which the symbols are contained is translated into a proposition which differs in symbolic content but maintains the significance of the original proposition. An example of this sort of analysis is Russell's theory of descriptions. His type sentence, "The round square cannot

exist" is equivalent to "No one thing can be both square and round". We thus eliminate the descriptive subject which occurs in the first existential proposition, and still express the same significant idea. Ayer evaluates this form of descriptive analysis by saying that

> "it is the purpose of a philosophical definition to dispel those confusions which arise from our imperfect understanding of certain types of sentence in our language, where the need cannot be met by a provision of a synonym for any symbol, either because there is no synonym, or else because the available synonyms are unclear in the same fashion as the symbol to which the confusion is due." (Ibid.)

A language is usually complicated by the ambiguity of symbols. One of such symbols in the European languages is the verb "to be". In sentences such as, "Watt is the inventor of the steam engine" and "Man is a primate", the symbol "is" remains the same. But when we translate the sentences we find that in the first one "is" means "invented", and in the second "is" means "contains". (The order of primates contains man.) Thus the verb in this case is an ambiguous symbol, and neither one nor the other should be confused with "is" signifying existence.

By employing symbols which denote logical constructions, we are enabled to make propositions about these constructions in a simple form. A name, for example, is a symbol for a logical construction which consists of sense contents. If it were not for such logical constructions,

we should not be able to make statements about anything. So, in the final analysis, symbols stand for sense contents. Therefore, to say anything about a "thing" is always to say something about sense contents.

> "By defining the notion of a material thing in terms of sense contents we solve the so-called problem of perception." (Ibid)

The problem of perception consists of the questions about the nature of material things. The questions are really requests for definitions. They are purely linguistic, and so are the propositions which answer the questions. They may appear to be factual, but they really express relationships among symbols, and not the properties of things symbolized.

Philosophical definitions are not intended to reveal meanings of symbols, for two equivalent propositions may not always have the same meaning for everyone concerned. The psychological effect produced by two equivalent sentences may differ considerably. For example, of the two sentences which state the same proposition: Communists advocate violent overthrow of the government, and Those who advocate violent overthrow of the government are communists, the former has a distinctly different psychological effect than the latter. Both symbols, "communists" and "advocate" have different emotive meanings in these sentences.

According to Ayer philosophy is not an inquiry

into the meaning of symbols. It is not a study of language as means of communication through symbols. Its interest in language is not as language, but as "a purely logical activity, and not in any empirical study of the linguistic habits of any group of people". The propositions of philosophy "are concerned with the logical consequences of linguistic conventions".

The current trend of the English group of Logical Positivists is to center attention on such problems as linguistic reference, the analysis of knowledge and belief, the theory of names and descriptions, and analysis of abstract verbs and nouns. Some of the members of this group focus their attention on detailed linguistic analyses which relate to specific problems of logic and theory of knowledge. Their investigations are very closely related to psychology on the one hand, and grammar on the other

The a priori

Ayer claims that the analytic method in philosophy may be regarded as a form of empiricism. Some form of analysis is implicit in the expositions of the greatest empiricists. Empiricism, however, does not imply that analytic philosophers can produce certainly valid propositions about life and matter, for their empiricism rests on purely logical considerations. As empiricists, how can logical analysts meet the criticism that empiricist principles cannot

account for our knowledge of necessary truths? Hume had pointed out this position of empiricism in his analysis of causality. No proposition can ever be proved to be logically and universally certain. At best even the scientific propositions of "truths" must remain only probable and hypothetical.

An empiricist encounters difficulties in explaining the apparently certain and necessary truths of logic and mathematics. These truths must be explained as either not universal and necessary, or it must be shown how propositions without factual content can be true and necessary. If this cannot be done, we shall constantly have to revert to some form of rationalism. The rationalist position breaks down if it can be shown that the so-called truths are either not necessary or that they are not truths about the world but about thought and reason.

Ayer insists that logical and mathematical propositions are independent of experience, and "do not owe their validity to empirical verification". He rejects Mill's view that these propositions are inductive generalizations. Whenever mathematical or logical propositions appear to be confuted, it may be found that in such instances we always appeal to experience and sense-contents to discover the reason for such confutation. But the principles of logic and mathematics cannot really be confuted. Being analytic,

these truths are necessarily universal and unassailable. The reason why they are universal is that they are tautological. In this case logical analysis accepts Kant's definition of analytic judgments. These are judgments in which the predicate B is covertly contained in the subject A, in the statement of the form: A is B. The predicate B adds nothing to the subject A, which has not been implicitly contained in it all the time.

Kant was not entirely sound in his presentation of examples to distinguish between analytic and synthetic judgments, for his examples were based on two different criteria, one psychological and the other logical. Ayer distinguishes between analytic and synthetic propositions by explaining that analytic propositions are those the validity of which depends on the definitions of the symbols they contain, whereas the validity of the synthetic propositions is determined by the facts of experience.

> "It is to be noticed that the proposition 'Either some ants are parasitic or none are' provides no information whatsoever about the behavior of ants, or, indeed, about any matter of fact. And this applies to all analytic propositions. They none of them provide any information about any matter of fact. In other words, they are entirely devoid of any factual content. And it is for this reason that no experience can confute them." (Ibid)

Analytic propositions, then, do not provide any information about matter of fact; being "devoid of factual content" they cannot be confuted by experience. Nevertheless

this does not mean that analytic propositions are mere nonsense. They inform us about the way in which we use symbols in linguistic construction.

The formal logic of the classic philosophers produced an effect that it was dealing with matter of fact, but actually it was dealing with linguistic usages. Logic never describes the laws of thought nor the matter of fact world. In like manner, mathematics, being purely analytic, give us no information whatever about the constitution and the properties of the empirical world. Mathematical propositions, especially those of geometry, can be used in reasoning about physical space, but this does not mean that geometry is about physical space, or that it is in some way directly based on it.

It has thus been shown by logical positivists that an analytic proposition is independent of the empirical world, and that it is also independent of the nature of our minds. It is merely an expression of the linguistic use of synonymous symbols. All analytical propositions are tautological, which explanation applies also to all a priori truths.

> "To say that a proposition is true a priori is to say that it is a tautology". (Ibid., p. 87)

The Meaning of Truth

What criterion shall we use to determine the

validity of empirical propositions? Concerning the "theory of truth", logical positivists are not interested in the question "What is truth?", for this question does not give rise to any real problem. It therefore entails no theory. From the viewpoint of logical positivists a theory of truth must aim to show how propositions are made valid. Consequently in their analysis of truth they do not deal with metaphysical entities, but with propositions and symbols which constitute them.

The terms "true" and "false" function only as signs of assertion and denial. Therefore they cannot be analyzed in the same manner in which we analyze concepts. The philosophers who are concerned with metaphysical analysis of truth are overlooking the symbolic function of this term. Thus, according to Ayer, the question "What is truth?" is always reducible to the question "What is the analysis of the sentence 'p is true'?". The result of such analysis is the strict adherence to the correspondence theory of truth. The coherence theory on the other hand, arises out of the speculation about truth as a quality which applies to something "real".

> "Thus to say that a proposition is true is just to assert it, and to say that it is false is just to assert its contradictory. And this indicates that terms 'true' and 'false' connote nothing, but function in the sentence simply as marks of assertion and denial. And in that case there can be no sense in asking us to analyze the concept of'truth!" (Ibid., p. 88-9)

The criterion on the basis of which empirical propositions are validated is different from that on which a priori propositions are validated. Empirical propositions are made valid on the basis of being experientially demonstrable. But even here the only certain validity applies to "ostensive" propositions; all others are mere hypotheses. Ostensive propositions are those which refer to immediate experience, and Ayer argues that even such propositions cannot be accepted as certain. According to him, they are impossible, or if they are expressed, they are mere tautologies and do not contain any new information.

Propositions which express more that a single hypothesis are referred to as synthetic. Very often these propositions may be mistaken for analytic. For example, it is possible to accept such statement as "All men are mortal" for an analytic judgment, since the idea "mortal" always goes with the concept "man", that is, the latter takes on the appearance of containing the former. Therefore, since the statement becomes a tautology, it tells us nothing new. Consequently it loses its hypothetical value.

> "Thus we create tautologies by a suitable adjustment of our definitions: but we cannot solve empirical problems merely by juggling with the meanings of words."
> (Ibid., p. 96)

If such is the case, if there remains a constant possibility of statements becoming mere tautologies, then logical pisitivism leaves all empirical problems unsolved. From the

above quotation we can see Ayer's admission that there are empirical problems. He must also admit that the method of language analysis will not solve these problems.

Why are we under constant obligation to alter our hypothetical propositions? We must first of all realize that hypotheses are rules which govern our expectations of future experience. They give us some accuracy in predicting our future sense-contents. From the evolutionary viewpoint hypotheses are highly specialized adaptations for survival. There is hardly any difference between this concept and Dewey's notion of the instrumental function of mental processes.

We derive our hypotheses primarily from our past experience. In this sense science becomes a descriptive method. And since some hypotheses have been known to break down in their efficiency of predictability, we ordinarily expect all hypotheses to lie within this possibility. Consequently the constant alteration of hypotheses is done with a view that new ones will more efficiently guide us in our future experience. With respect to this view, logical positivism is a reflection of the basic principles of Dewey's instrumentalism.

We do not always accept hypothetical propositions on the basis of empirical evidence, however. Our beliefs concerning the hypotheses are not always rational. Rationality

of our beliefs is a purely relative matter.

> "We trust the methods of contemporary science because they have been successful in practice. If in the future we were to adopt different methods, then beliefs which are now rational might become irrational from the standpoint of these new methods." (Ibid., p. 100)

Interpretation of Ethics and Theology

Ayer's object is to justify the positivist view that all synthetic propositions are empirical hypotheses. To do this it is essential that ethics and theology be brought within the scope of his critical analysis.

Philosophical systems have been dealing with the problem of epistemology by considering speculative knowledge as being of two kinds, "that which relates to questions of empirical fact, and that which relates to questions of value". Ayer sets out to show that statements of value are in a way scientific statements if they bear any meaningful significance at all.

Ethical philosophers usually confuse four classes of possible ethical propositions. These are: definitions of ethical terms, descriptions of phenomena in moral experience, Statements about moral virtue, and actual ethical judgments. By confusing these classes of propositions philosophers have confused the issues under consideration. From the viewpoint of logical analysis, "it is easy to see that only the first of our four classes, namely that which

comprises the propositions relating to the definitions of ethical terms, can be said to constitute ethical philosophy". Propositions which belong to the other three classes can be sufficiently well dealt with by psychology and sociology.

To say that an action is good morally because it is generally approved of is self-contradictory. Ayer rejects the subjectivist principle of moral judgments, since it usually leads to regarding ethical and moral values as intrinsic and absolute, hence, not arrived at empirically.

> "Our contention is simply that, in our language, sentences which contain normative ethical symbols are not equivalent to sentences which express psychological propositions of any kind." (Ibid., p. 105)

Normative ethical concepts cannot be reduced to empirical concepts. Statements of ethical value, therefore, can never be verifiable; in the end we are obliged to rely on the "intuitive sense" of every individual. But this is no criterion of validity. The "absolutist" theory of ethics becomes wholly unacceptable to the philosophy of logical positivism.

Ethical statements of value are made on the basis of emotions - a purely psychological factor - not on the basis of scientific principles. It may therefore be argued that ethical concepts are pseudo-concepts. That is, in ethical propositions we make statements of fact to which we add a purely personal emotional increment of approval and disapproval, or feeling-tone.

> "For in saying that a certain type of action is right or wrong, I am not making any factual statement, not even a statement about my own state of mind. I am merely expressing certain moral sentiments." (Ibid. 107)

The contradictories to moral propositions rest on the same ground. They are either expressions of feeling, exhortations, or commands.

The subjectivist ethical philosophers claim that ethical statements assert the presence of certain feelings. Consequently, according to them, such statements can be judged as true or false depending on whether the feelings are present or absent. Ayer argues that ethical statements are not necessarily accompanied by corresponding feelings; therefore their validity cannot be determined. Nevertheless it may be contended that whoever may be the author or originator of a certain ethical proposition, this proposition has or had some corresponding feeling in that individual or in other individuals in the present or in some historic past.

The contradictions in statements about ethical and moral values are only apparent. When we dispute about moral values we are actually disputing about the facts of some particular case.

> "We do this in the hope that we have only to get our opponent to agree with us about the nature of empirical facts for him to adopt the same moral attitude toward them as we do." (Ibid., p. 111)

There are , therefore, no real disputes, for these can arise only from contradictory statements about matter of fact;

they are the ones that can be empirically validated. All moral arguments, to be sensible, must be based on some standard of values to give us a criterion on the basis of which to judge our statements as true or false. But we can never establish absolute validity of the moral criterion itself.

After careful consideration of Ayer's arguments concerning ethical propositions, one feels logically obliged to accept his view that ethics is a branch of psychology and sociology. There is an apparent influence of recent psychological investigations in the sphere of moral conduct upon the views adopted by logical positivists. Statements pertaining to aesthetic concepts fall in the same category - they lie in the sphere of psychological studies. And any information that we derive with respect to our moral and aesthetic experiences, "is information about our own mental and physical make-up".

If such is the case in connection with the above concepts, then the same arguments must apply to our theological notions. According to Ayer, it is impossible by any logical argument to prove the existence of a transcendent God, or the possibility of religious knowledge. How certain are the premises used in the arguments to prove the existence of God?

> "It is only a priori propositions which are logically certain. But we cannot deduce the existence of a god

from an a priori proposition." (Ibid., p. 114)

On this ground it is even impossible to prove the probability of a god. The proposition "God exists" is a metaphysical proposition, and as has already been pointed out previously, such propositions are not verifiable and have no literal significance. This view, however, does not entail atheism or agnosticism. Logical positivism still leaves room for the concept of God to be employed as a symbol for certain empirical processes or facts. Only thus can the concept be used significantly in meaningful propositions. But the symbol must not be taken to stand for some transcendent entity beyond the possibility of empirical verification. This analysis leads to the position that there cannot really be any dispute between religion and science, for since religious propositions are of metaphysical character, they can have no relevance to the empirical world.

The Problem of Knowledge

The method of analysis which logical positivists use in the field of morals and ethics appears also in their solutions of epistemological problems. Such terms as "knowing" and "believing" are analized through phenomenalistic and dispositional interpretations. Mental processes are no longer regarded as a mechanical sort of activity going on in various parts of the brain. Professor Ryle, for example,

explains that

> "Knowing is not a process like humming or digging. It is a disposition, like believing, feeling, being clever, etc." (Lecture, 1949)

Ayer agrees fully with this position.

What is the basis of knowledge? Can empirical knowledge be justified only on pragmatic basis? Ayer has already shown that all propositions,

> "including the propositions which describe the content of our sensations, are hypotheses which, however great their probability, we may eventually find it expedient to abandon. And this means that our empirical knowledge cannot have a basis of logical certainty." (L. T. & L.)

The only certainty is that contained in tautological propositions.

The question as to whether sense-contents are physical or psychological is dismissed as irrelevant. Logical positivism deals only with distinctions in propositions, that is, with language, There is no empirical test by means of which we could solve the problem of "reality". Accordingly a sense-content is defined not as the object, but as a part of sense-experience.

> "And from this it follows that the existence of a sense-content always entail the existence of a sense-experience." (Language, Truth and Logic)

Therefore sense-contents should not be treated as if they were material things.

In the final analysis, the distinction between mind and matter, according to Ayer, can apply only to logi-

cal constructions. The fact that these logical constructions are reducible to sense-contents does not constitute any problem in so far as the concept of matter is conserned. In the words of Ayer,

> "It should be clear, also, that there is no philosophical problem concerning the relationship of mind and matter, other than the linguistic problems of defining certain symbols which denote logical constructions in terms of symbols which denote sense-contents." (Ibid., p. 124)

The apparent problem had arisen out of the metaphysical conception of "substances".

In view of this positivist analysis of knowledge, the self, too, must be analyzed only in terms of sense-contents. A sense-experience can belong to a sense-history of only one individual self, since all sense-experiences are subjective. There are certain difficulties arising out of the fact that the self is still considered as some unitary "substance" underlying all sense-experiences. But Ayer believes that such an underlying unity is purely a metaphysical construction. Like Hume, he rejects the concept of an underlying ego "on the ground that no such entity was observable". The only observable elements are perceptions of sense-contents.

Logical Positivism as a Philosophic Method

> "There is a unity of language in science, viz., a common reduction basis for the terms of all branches of science, this basis consisting of the very narrow and homogeneous class of terms of the physical thing-language." (Carnap)

Ayer's object is to show that the nature of philosophy is such that there should be no disputes leading to conflicting schools. Apparent conflicts can be resolved if philosophy undertakes to analyze linguistic usages instead of arguing about metaphysical concepts. The primary business of philosophy is to deal with logical questions. If the questions are not logical, then they can be either submitted to the investigation by science, or dismissed as senseless.

The outstanding aim of logical positivism is to show the unity of philosophy and science. The scientist ultimately deals with empirical facts; the philosopher's function is merely to classify the symbols which the scientist employs. Considered thus, philosophy becomes a logic of science.

> "Thus the philosopher is not, qua philosopher, in a position to assess the value of any scientific theory; his function is simply to elucidate the theory by defining the symbols which occur in it." (Ibid., p. 152)

By rejecting metaphysical speculation logical positivism avoids controversial issues. It is only in the rationalist and idealist schools that countless controversies arise. Nevertheless, for the very reason that it rejects metaphysics for linguistic analysis, it is faced with difficulties peculiar to its method. The main difficulty is that of verifiability. In order to have significant

meaning, propositions must be verified by science; they must be shown to stand in certain material relation to direct observation. But there are metaphysical propositions which, though they cannot be verified by science, neither can they be proven to be wholly a priori. Logical positivists begin their analysis with an assumption that only propositions of matter of fact or of science are verifiable. Consequently their own propositions employed in logical analysis cannot be verifiable. If such is the case, logical positivism must be a metaphysical method. It is this solipsistic impasse which leads some positivists to admit the possibility of propositions which are halfway between synthetic and a priori or analytic.

Another difficulty is that which arises out of the analysis of truth. In his criticism of metaphysical speculation about truth, Ayer overlooks the fact that besides being an assertive symbol or sign, "truth" may also be a symbol for relationships among empirical facts. The problem of truth cannot be completely reduced to the question of how propositions are made valid. There still remains the problem of relation of empirical facts to sense-contents.

In the final analysis the meaning of truth depends on the meaning of reality. For logical positivism the real things are the symbols. But it is just as possible to

accept symbols as such, and to give reality to relations, irrespective of their symbolic expression. Therefore the theory of truth may pertain to empirical relations and not to propositional statements about these relations.

The reason why the method of logical analysis opens itself to criticism on the ground of being solipsist is because of its thoroughgoing phenomenalism. Ayer objects to any criticism on this ground, since, according to him, there is a high degree of probability in inferring the existence of others from that of the self.

> "It appears, then, that the fact that a man's sense-experiences are private to himself, inasmuch as each of them contains an organic sense-content which belongs to his body and to no other, is perfectly compatible with his having good reason to believe in the existence of other men." (Ibid)

Ayer, however, is doubtful of the validity of his own arguments in this respect, and admits that the objections are quite justifiable. There is only one conclusion that we must form in order to avoid solipsism. From the comparison of the behavior of others to that of our own, we find certain similarities; and knowing that our own behavior is closely connected with our own sense-contents, we must conclude that we belong to the same world with others. This conclusion forms the basis for our mutual understanding.

Nevertheless, the problem which positivism sets out to solve is far from being solved, for it merely introduces in place of metaphysical speculation the problem of

"literal significance". What is literal significance? Apparently it involves some correspondence between sense-contents and our propositions about these. But what do sense-contents include? We may answer this question by saying that they include everything that goes by the name of "experience". If that is the case, then feelings and emotions are species of sense-contents. They are thus empirical and matter-of-fact, and statements about them should be as much verifiable as those about all other sense-contents. From this viewpoint Ayer's arguments pertaining to ethical and aesthetic propositions turn out to be quite ineffectual.

It is evident, of course, that his arguments stem from his basic assumptions concerning the nature of knowledge. In this connection we may note the basic assumptions of some of the main trends of philosophic thinking today. "To know is to have sense-contents", says Ayer. Bergson argues that "to know is to be one with". Dewey believes that "to know is to act". Is there any essential difference in these three views of knowledge? In what follows, an attempt is made to compare and reconcile some of the basic concepts in the leading contemporary trends in philosophic thinking.

DEWEY, WHITEHEAD AND LOGICAL POSITIVISM

In Irwin Edman's book, The Philosopher's Quest, Edward Brodvue falls vistim to philosophic neurosis. He develops an urgent compulsion "to have a clear and comprehensive view of the world". Fortunately not every philosopher becomes afflicted with philosophic neurosis, and the reason is that most philosophers have strong faith in the rationality of the human mind. Edward Brodvue had no such faith. Consequently he was unable to reconcile the final and absolute truths of philosophers. He could not decide which of the philosophic systems is the true solution to the eternal problems confronting the human mind.

Of course his search for a final solution was bound to be futile, for truth does not lie in philosophizing, but in living. And those philosophies which have constructed systems of thought based on the notion of final "truth" are but partial glimpses at the totality of life. They all exemplify progressively evolving truths.

It is impossible to imagine complete reconciliation or unification of the various approaches to philosophic thinking; one would have to imagine humanity as no longer human if such homogenous state could be envisaged. Consequently one must search for most satisfying truths in all philosophic systems. In this respect one soon discovers that although philosophers speak in different linguistic

symbols, there is a great deal of similarity in their methods. The methods of attaining the object of their quest may be predominantly practical, metaphysical, or strictly logical. The mere fact however that all are engaged in the quest gives these methods certain value as useful instruments in the solution of human problems. It is with this view in mind that we may now evaluate comparatively at least three of the present day methods in philosophic thinking. We shall try to discover what services each may render to a clearer understanding of human problems.

The philosopher's quest is neverending, for if it were, the most primitive being who proffered some explanation of the natural phenomena about him, would have solved the riddle of the universe for all time. The quest must go on for the simple reason that no explanation, no matter how highly systematized and elaborated, is all-inclusive. Consequently, if one were asked to adopt in its entirety any of the contemporary systematized philosophic pronouncements, one would have to employ the attitude of pragmatism and say with Dewey that there is nowhere at any time anything that may be accepted as finite and absolute. Those who profess to have attained such truth ought only to say that they have visions and imaginations, the outcome of man's desire to transcend time and space, the 'now' and the 'here'.

It is in this respect that Whitehead and Dewey

present us with both a contrast and a similarity. As to contrast, the former went beyond the limitations of the immediate, while the latter has not gone far enough. As to similarity, both philosophies are the outcome of the analysis of scientific method. Whereas Dewey's philosophy remains a method of philosophical analysis within the bounds of science, thus becoming instrumental in the life problems of man, Whitehead's philosophy of organism goes beyond the bounds of science by generalizing the hypotheses and the so-called laws of science. His tendency to generalize makes him underestimate the value of experimentation in modern science. This tendency may perhaps be expected from any mathematical genius, but he overlooks the fact that intelligence was the beginning not only of mathematics, but also of experimentation. Dewey's main argument is that since intelligence proved effective in science, it should prove as effective in philosophy. Man's "natural" environment consists not only of physical things, but also of social beings. Therefore scientific method should apply to the whole of his environment. There are no fields of human endeavor in which knowledge may be obtained through any method which is not the method of science. It is at this point that Dewey and Bergson part company, although both philosophies begin with the idea that life is activity and activity is for life.

In what sense can it be said that Whitehead goes beyond the limitations of the methods of science? It is well known that scientific methods are in constant process of change, both in theoretical objectives and in details of research. It is really a history of the constant process of change in the methods of inquiry. Science is a method, but it should not be regarded as a system, for system implies rigidity. It implies some underlying plan which at times may be conceived as forming a set of immutable laws. Such attitude is usually the outcome of the metaphysical search for the Absolute. It is in the latter sense that Whitehead's systematization of modern physical sciences leads him to postulate a world of "eternal objects". What else can this world be but a metaphysical construction? His analysis of scientific concepts makes him conclude that science is taking on a new aspect which is neither purely physical in the sense of Newtonian mechanics, nor purely biological in the sense of Darwinian biology. In some distant future the historians in their analysis of our civilization will speak of our scientific beliefs as having constituted definite impediments to progress. Our scientific pursuits are completely outdistancing our critical study of scientific concepts and procedures, so that we find it difficult to differentiate between scientific points of view and those which are strictly metaphysical.

The most burning questions with which Dewey begins his analysis are those which appeared in the mind of every philosopher: What is knowledge and how do we come to have it? Shall we begin our enquiry by employing the refined operations of the mind? Or shall we begin with the lowly empirical activity which is so natural to man? Dewey accepts the latter form of activity as truly leading to knowledge. His philosophy then must of necessity be nothing else but the analysis of the scientific method of attaining knowledge. But it will be claimed that Whitehead's philosophy of organism is just such an analysis. It may appear so in its general aspect; however, though he begins with the analysis of the scientific method, he ends up with a form of knowledge which he implicitly claims to be higher than the merely empirical knowledge of science. In principle it differs very little from Bergson's intuitive knowledge.

The questions with which Dewey begins his analysis are in no way different from those which occured in the minds of the Greek philosophers. But the social and historical circumstances of the times prompted these philosophers to begin their enquiries with the "refined objects of thought". In the modern world the general conditions are such that not even avowed hermits can successfully survive by depending wholly upon this ancient method of inquiry.

It was during the Renaissance that the empirical method of inquiry was quickly adopted. The medieval scholastic jugglers were soon left far behind the scientists in the race for knowledge. Theirs was the method of pure logic, just as today we have methods of pure mathematics and pure mathematical physics. The excursions into these realms are of no harmful consequences so long as one always comes back to primary experience for verification. It must be said that even Whitehead's metaphysics does not completely abandon the world of "direct observation".

In spite of the fact that it is possible today to deal with physics in the form of pure mathematics, it was not in this form that scientists had begun to study nature. There exists at present a process of integrating the experimental procedure with mathematical formulations; the latter are really being controlled by the former. The successful interaction of the two makes scientific progress possible. Neither Russell nor Whitehead can ever succeed in separating one from the other. It is only through the interaction of theory and practice that theory can be prevented from creating facts. It is in this sense that Dewey stops short of Whitehead, that is, he does not allow scientific theories to become absolutes. For Whitehead scientific concepts and laws are not exactly absolute in the Idealist sense of the word, but he does use them to create his

metaphysical "facts". Scientific progress, according to him, has reached a position where it is necessary that the fundamental concepts used in science be reinterpreted. The old scientific abstractions are no longer adequate; it is necessary to go back to concrete facts and develop new abstractions. The basic abstractions upon which he constructs his new philosophy of nature are such as eternal objects, duration, change, organism, value and interfusion.

For Whitehead science begins with theory, and the latter has its basis in a "metaphysical understanding". What can metaphysical understanding mean when in the final analysis one is always driven to the observation of brute fact? In his philosophy it can only mean a super-structure of metaphysics in which an account is rendered for the occurence of the world of actual facts. But this is an underestimation of scientific understanding. Dewey's contention would be that Whitehead's disregard for the value of scientific understanding has led him into an idealist field - the search for the immutable and permanent Reason. For Dewey scientific understanding is sufficient to explain the nature of brute facts. No philosopher of science can be properly called so if he disregards the facts of science. The facts which Whitehead disregards to a great extent are those of experimentation; they appear to have no relevance to the philosophic understanding of the methods of science.

Just as in Whitehead's philosophy of organism process and continuity are the basic concepts, so in Dewey interaction and continuity form the main theme. Whitehead, however, arrives at contadictory conclusions, since his concept of continuity derives not from all sciences in general, but from the biological sciences which with him carry most weight. He constantly looks for relations which are discovered by scientific inquiry, and which are so well exemplified in organismic activity. Dewey looks for interactions which scientific inquiry accepts as present in nature, and proceeds to explain them by means of experimentalism.

Every philosophy is an attempt to begin right from scratch. It may be said that both Whitehead and Dewey are attempting just that. But no "new" philosophy can completely break away from old ways of thinking. Dewey makes an admission of this fact in considering the historical factors in his Reconstruction. It is in this connection that Logical Analysis merits a great deal of credit, for it points out that so long as the process of thinking goes on by means of the symbols of language, thinking may appear to have a "new" character, but it still wears the same old garb. The language may be new, but the method will remain the same as that of Plato and Aristotle.

Knowledge is not derived from theories; these are simultaneous with knowledge. That is, knowledge to be know-

ledge, must be empirical. This is Dewey's fundamental position. Whitehead, on the other hand, says:

> "Metaphysical understanding guides imagination and justifies purpose. Apart from metaphysical presupposition there can be no civilization." (Adventures of Ideas)

This is a statement of belief that knowledge is the consequence of a philosophic or logical theory, or even a scientific theory which fell from some metaphysical heaven for the purpose of enlightening mankind. Dewey's basic doctrine with respect to knowledge is that before it can be accepted as knowledge it must have undergone experimental tests. Knowledge is but an intrinsic part of all experience. In fact, knowledge is experience. It is a form of interaction in the process of "doing-undergoing". Accordingly, the scientific method is the product of social interaction. General experience which becomes organized into a rational system is not a product of observations and experimentations of one individual, nor is it a product of the mental activity of one individual. His entire philosophic thinking rests on his conception of socialized intelligence.

Considering the positivist trends in modern philosophy we find, for example, that there is no fundamental difference between Dewey's instrumentalism and logical positivism. In both cases truth must be validated by direct primary experience. Both logical positivism and pragmatism have a common root in the earliest formulation

of empiricism. In America this early formulation dates back to the time of Peirce and James. It was through their influence that the emphasis began to fall on the problem of the verification of ideas instead of on the problem of their origin.

The main difference between the two philosophic methods is in the meaning given to truth. According to Dewey truth is the process of verification; an idea or a belief is true if it works in practice. This, however, is not a very reliable criterion of truth, for a belief may be absolutely false and still have no evil effects in practice. Many religious beliefs belong to this category. But pragmatism would not wish us to interpret its meaning of truth in this manner. To avoid ambiguity we must accept the relativist meaning of truth; that is, truth is relative to the consequences of experience. This is purely an empirical definition. An idea or a belief can neither be true nor false until it has been tested in experience. Thus truth is the outcome of experience. This definition of truth is criticized by the realists and the positivists on the ground that the truth or falsity of propositions of ideas or beliefs are antecedent to the process of verification in experience. The facts are what they are prior to their discovery of being true or false.

The difficulty confronting pragmatism is similar

to that which confronts idealist philosophies. Is the world of flux really without any distinguishing features, thus necessitating the mind to carve out its own objects of experience? If so, then it is just a matter of chance that the world is carved out as it is. Does the mind determine its own method of experience? To say that the nature of mental activity is such that it experiences the world the way it does, still leaves the whole theory in a dilemma.

If through selectivity the mind determines its own world of experience, then things, beliefs, ideas and hypotheses must be true, and there is no need of verification. Whatever the mind selects must be in agreement with human purposes. But by calling upon verification pragmatism implies that these purposes are thwarted by other facts of experience. However, according to pragmatist psychology, the mind selects all facts of experience. There thus arises a contradictory position. The facts that we know, but which do not serve our purposes are either some sort of ingressions from the world of flux, having slipped by the mind in its process of selection, or they are not real. Thus we are back in the dualistic world of Idealism.

The pragmatist conception of truth is simply this: We do not believe things because they are true, but they are true because we believe them. And we believe them because such belief satisfies our emotional desires.

It satisfied the emotional desires of the medieval schoolmen to believe that the earth was the center of the universe but the belief was not true. It satisfies our emotional desire (probably because of fear of insecurity), to believe that the ultimate reality consists of solid material particles; can our belief be true in the light of recent explanations of physics? We also obtain emotional satisfaction from our belief in the sincerity of the U.N.O. in its efforts to establish lasting peace. But is our belief alone sufficient to ensure the truth of lasting peace? It suits us in the Western Hemisphere to believe that our policies are true. Does this make the policies of the other half of the world false? In the final analysis then, truth is what each individual makes it to be according to his individual desires. It appears from this that Dewey has failed to continue his analysis to its logical conclusion. We live in a culture in which we manufacture our own truths. But at the same time we dislike these truths and constantly aspire to better ones. The present truths, which are out of harmony with our individual desires, are the outcome of our culture. The intelligent thing to do therefore is to change the cultural elements and bring them in harmony with our ideal truths. The apparent need today is primarily not a Reconstruction in Philosophy, but a Reconstruction in Culture. In a reconstructed culture philosophy

will inevitably undergo a corresponding change, for as Dewey himself claims, philosophical thinking is a reflection of the cultural life of an age.

Dewey presents us with the idea that there is such a thing as community of feeling and desire; there is also socialized intelligence. From common experience it is evident that these social factors envisage truth as something more permanent than the one described by pragmatism. Society at least wishes to see truth in blueprint before it is poured in concrete. Therefore, all that we have to do in order to make truth universal is to extend the community of feeling to cover the entire world. But how can this be done without changing the cultural foundations of human productive activities and the satisfaction of basic wants? And to change the latter we must have a community of belief credited to be true. Any reconstruction must begin with such community of belief.

As already stated, Dewey's instrumentalism does not reach its logical conclusion, but stops with the assumption that the methodology of science has reached its culminating point. However, if experience is a process in which science is but one of the phases, then there can be no end to the change in the methods of science. And since socialized intelligence is the outcome of our scientific inquiries, society should be able to formulate truths which

it desires. Dewey says that the new direction that philosophy must take is to find in the present scientific revolution a constructive significance for the future; it must develop a system of belief-attitudes on the basis of our scientific resources. The changing of our present belief-attitudes must involve a change in our cultural life as a whole. The function of philosophy in our scientific age should be the furtherance of moral inquiry. This simply means that philosophy must develop new moral standards and new objectives - new ends - which may be attained by our new means. Does this not imply the revaluation of old truths and the formulation of new ones?

The three present day methods of approaching philosophical thinking, pragmatic, organismic and analytic, are here critically examined as offering some possibility of a synthesized outlook simply because all three have their roots in science. A particular culture is a reflection of the basic activities of man. The basic activities in our age are scientific. Consequently philosophy as a cultural element in our age is being continually shaped by our basic activities.

Neither pragmatism, nor philosophy of organism, nor the analytic method of logical positivism can alone solve the problems or offer a comprehensive answer to the

questions which constantly arise out of our activities. However, since all three are the outgrowth of science, a correlated and integrated method may be attempted - a method and a view which may contain relevant elements from all three. The pragmatic and instrumental methods cannot be rejected, for they are not just an accompanying feature of the progress of science, but an essential analysis of the scientific procedures. The view that knowledge is scientific knowledge, and that the nature of the world cannot be deduced from the nature of knowledge, cannot be disregarded without distorting our basic concepts of experience. Thus pragmatism has succeeded in introducing some unification into philosophy and science. Dewey's analysis points out that philosophy must submit its problems to experimental verification, and science has to become conscious of its philosophical implications. The concepts which can be of no use in experimental technique are to be eliminated from our philosophic thinking. Out of such early general trend there finally developed also an extreme form of radical pragmatism - the shift in emphasis from experimentation to logical positivism involving the manipulation of our linguistic instruments.

There are therefore common features in these two ways of philosophic thinking, the pragmatic and the analytic. First of all, both are based on the psychological theory of

perception. The correspondence theory of truth is implied in both pragmatism and logical positivism. With Dewey truth is the condition or thing which corresponds with the satisfaction of our desires; with the positivists truth consists of the verification of propositions. And in the final analysis, what are propositions but symbolic forms through which our desires are expressed?

From the viewpoint of metaphysics the instrumentalism of Dewey which makes thought an instrument for action, is itself founded on a set of metaphysical assumptions. The most important of these assumptions is that there is an empirical world in which thought operates; a world of change, at least part of which may be determined and controlled by the use of thought. Whatever may be the nature of our activity, in the end it is thought which pronounces judgment, whether it be judging action or judging itself. A theory of action may be regarded to be just as metaphysical as a theory of theory. Dewey's instrumental interpretation of thought is no less metaphysical than Whitehead's organismic interpretation of the universe. Dewey's criticism of metaphysical speculation is based on a perfectly logical viewpoint of a philosopher of science; it is a critique of that form of metaphysics which is a quest for certainty in "a realm of higher Being". However, in the age of science a metaphysical method may not neces-

sarily involve a speculative quest for some higher form of being; it may not necessarily consist in a formulation of a theory of reality. The task of a philosophy of science such as pragmatism, for example, consists in the criticism of the improper metaphysical use of the notions of science. It may be said in this respect that Whitehead's philosophy is a reconstruction of metaphysical concepts necessitated by the developments in science.

According to Dewey the entire process of experimentalism is a controlled history of events, and the final consequence is what is "known"; it is what we usually call the conclusion. In the continuous interactivity of events we cannot separate causes from effects - there is a continuous chain of events. This continuous chain in time and space may be called an interactive continuum. In this connection Dewey's concept of causality is almost identical with that of Whitehead, although the latter employs different mode of expression. There is a fundamental general agreement between the two on the point of societies within an interacting continuum, if we use Whitehead's terms.

The process of inquiry is just one of the processes of nature; it emerged gradually with the emergence of all events throughout the evolutionary history. The interacting continuum is a steady process of change because of the entry of inquiry into it. Behind the activity of experimental

inquiry there is always theoretical activity. This activity leads to further theorizing, which in turn leads to metaphysical activity. The philosophy of Whitehead may then be taken as the theorizing upon the theoretical, or as theoretical activity twice removed.

One of the contentious problems which have troubled some of the philosophers of science (Bergson, for instance), has been that the scientific method isolates systems in nature. In this connection both Whitehead and Dewey agree that by isolating systems we do not remove them out of nature. It is only in theory that we can isolate things; in reality there is a continuous interaction and interconnection. In Dewey's view all experimental procedure, including the theorizing activity, forms an inseparable part of the whole of scientific inquiry. Whitehead, on the other hand, separates the theoretical activities of science from those which are purely experimental. This is the basic difference between the two philosophers. Actually Whitehead's metaphysical system grew out of this separation of the two activities. He has emphasized the idea that it is essential for science to have an ideal isolated system, that is, to have a metaphysical structure which should act as a guide to scientific activities. According to him, a great scientific civilization cannot be built upon mere macroscopic observation and experiment.

Whitehead's philosophy of organism may be regarded as a metaphysical justification of the facts of science. It is based on a recognition that the speculative activity of the mind is a real factor in the world of experience. This activity, which Dewey explains as the outcome for the search for order, stability and security, cannot be disregarded as irrelevant. In the age of science the organismic metaphysics satisfies the demand for speculative activity.

What has Logical Positivism contributed to the general philosophical thinking of our scientific age? As already explained, its method consists in the analysis of language as a symbolic tool in science and philosophy alike. Thinking is an intrinsic activity in the human being as a social animal. It goes hand in hand with social interaction; and its basic instrument is language. Language then is the underlying factor in our philosophic thinking. What Whitehead says about the importance of language may be regarded as a concise statement of the main objective of the analytic method:

> "Philosophy is a difficult subject, from the days of Plato to the present time haunted by subtle perplexities. The existence of such perplexities arising from the common obviousness of speech is the reason why the topic exists. Thus the very purpose of philosophy is to delve below the apparent clarity of common speech."
> (Adventures of Ideas, p. 285)

The understanding and proper use of the instrument of language are essential in furthering our methods of scientific

inquiry and in preventing pitfalls in our thinking. It is in this respect that the analytic approach of Logical Positivism is of tremendous value in our inquiries.

Important as it is, the analytic method of the positivist school cannot be accepted as the only possible approach as it is accepted by some extreme followers of Carnap. There are certain difficulties which Logical Positivism cannot solve alone. In considering language as a symbolic tool we find that symbols either stand for something, or their function is meaningless. Logical Positivists deal with symbols to the extent that only those symbolic combinations have meaningful significance which can be verified empirically. But by implication, their premise is that all symbols represent something. Therefore, according to their own analysis, it is quite illogical for them to refuse to deal with the so-called metaphysical propositions. By so doing they are dealing only with a particular phase of experience.

The method of linguistic analysis cannot alone constitute an exhaustive philosophy.

> "Language is incomplete and fragmentary," says Whitehead, "and merely registers a stage in the average advance beyond ape-mentality. But all men enjoy flashes of insight beyond meanings already stabilized in etymology and grammar." (Ibid., p. 291)

Logical Positivism cannot deal with these "flashes of insight", because the symbolic instruments are still lacking,

and also because the dogma of verifiability does not cover such occasions. Pragmatism refuses to deal with these occasions because of the dogmatism of scientific methodology. Only Bergson makes an attempt at recognition in experience of such "flashes of insight". But he oversimplifies experience by underestimating the relevancy of sense-data. A common criticism directed against pragmatism as a philosophy of the scientific method is that it implicitly accepts scientific methodology as universal and final. This position is based on the acceptance of the doctrine that the only avenue of communication between subject and object is that of the five senses. This dogma explains sufficiently the methodology of science, but it does not explain the whole of experience. Thus far science has been rejecting certain phases of experience as irrelevant to its practical purposes.

The object of these general observations has been to show that it is possible to accept the three approaches to philosophy, not in their entirety, but by selecting those elements which are pertinent to, and which are the direct outcome of the underlying scientific inquiry. Another reason why these three have been chosen as offering such eclectic possibility, is that they have abandoned any claim to the dogmatic stand of former schools that philosophy as such has a special method of acquiring knowledge. Or as Russell

expresses the idea when he speaks of the trend of the new philosophies of realism:

> "It regards philosophy as essentially one with science, differing from the special sciences merely by the generality of its problems, and by the fact that it is concerned with the formation of hypotheses where empirical evidence is still lacking." (Phil. of the 20th Century)

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